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THE RAILROAD MAN'S MAGAZINE

APRIL

THE FRANK A MUNSEY COMPANY NEW YORK AND LONDON

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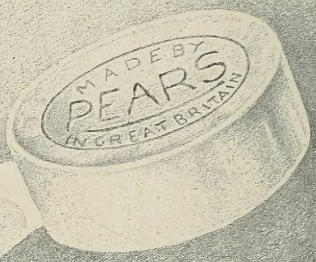

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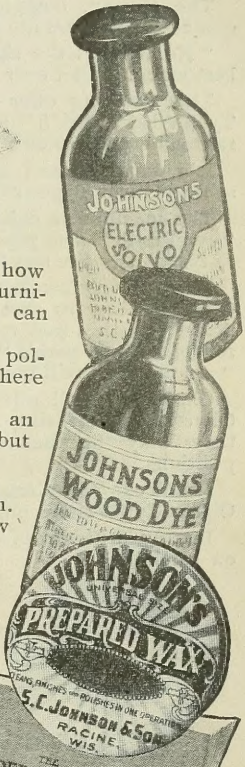

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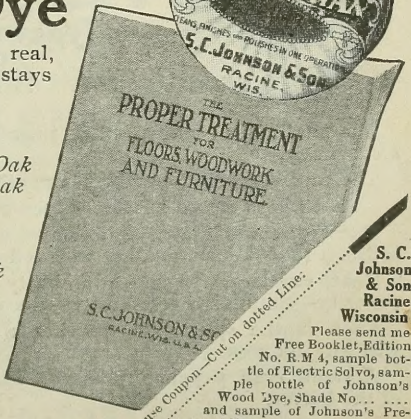

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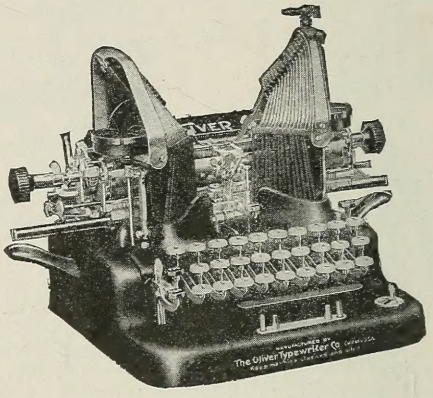

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THE RAILROAD MAN'S MAGAZINE

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175 Fifth Avenue, New York, and Temple House, Temple Avenue, E. C., London

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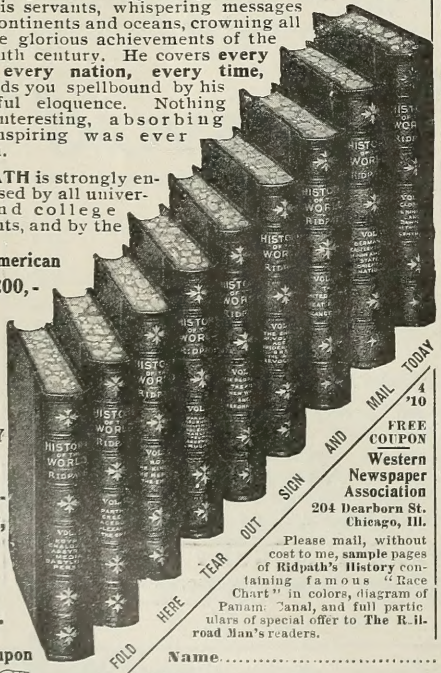

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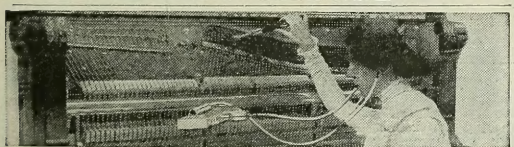

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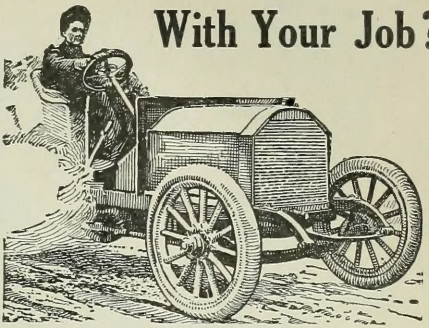

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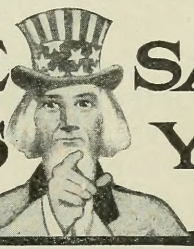

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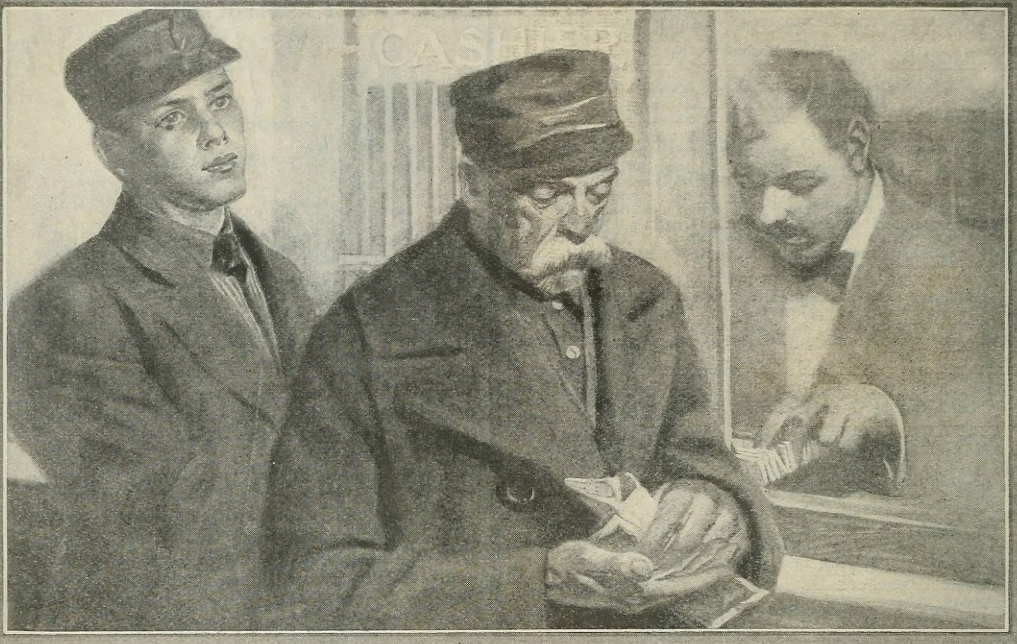

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THE RAILROAD MAN'S MAGAZINE

Vol. XI. APRIL, 1910. No. 3.

Rough-Riders of the Rail.

BY GILSON WILLETS.

THE extremes to which some men go—and women, too, as Mr. Willets informs us in this article—to get a free ride on a train, surpass even the deeds of daring of the early Indian fighters. That they take their lives in their hands, that they are driven to hunger, desperation, and even insanity, in their desire to get from one place to another, seems to prove that the bo—as he is commonly called—does not annex himself to a brake-beam or hide in a box car just for the fun of the thing.

That Mr. Willets gathered the following stories on one of his journeys around the country for THE RAILROAD MAN'S MAGAZINE, attests their authenticity. Whether or not the bo is frequently driven to his vagabond life by existing conditions is not for us to decide, but that he is a factor in human life to be reckoned with, we know. He doesn't care much to talk. But when he does, he usually has something to say.

How the Engine Hostler Got in Jail—The Jungling Lumber-Jack—An Inhuman Mother—Los Angeles Officials as Boes—"Red-White-and-Blue Bessie"—The Killing of Ferrer, and Others.

MY cab dashed up to the Southern Pacific Station at San Antonio, Texas, just as the conductor of the west-bound Sunset Express shouted "'Board!" It was necessary that I should cover the long haul in that particular train in order to be on time in joining a hunting-party at El Paso. So I thrust four bits into a porter's hand, and saw him toss my trunk containing my hunting togs into a baggage express-car.

Trainmen told me that that baggage express-car was empty save for my trunk, and that for some reason it was being sent to El Paso, dead.

Reaching El Paso, I went to the Sheldon Hotel. As I registered, the clerk said: "Railroad detective looking for you. Here he is now."

"Know you've been robbed?" blurted the detective. "No? Your trunk was broken open on the train and its contents rifled. If you don't mind, I'll be present as a witness while you overhaul what is left of your wardrobe." And he went with me to my room.

My corduroys, hunting-boots, poncho, cartridge-belt—in fact, all the chief articles of my kit were missing — even my tobacco. "I'll have to buy a new outfit," I said, after I had signed a claim on the Espee, "for I'm obliged to start out with Bill Greene to-morrow for a hunt in Mexico."

"Don't buy much," replied the detective, "because by the time you return I'll have the stolen stuff, as well as the stealer. It's a hobo job, and the rangers (meaning the famous Texas Rangers under Captain McDonald) will get that tramp within a few days."

Caught in the Sage-Brush.

I was gone three weeks on the hunt. Reaching El Paso once more, I was confronted by that same railroad detective.

"McDonald's men got him," he greeted me. "A free-rider? Yes, but not a professional tramp. It was his first offense—tells a plausible story—but now, if you'll step around to court, you'll have a chance to identify your property."

The court was held in a small room over a store. All my togs were returned to me, even the tobacco. "Well, your Texas Rangers certainly are the most capable police I've encountered," I said.

"It was simple," replied the detective. "The man was out in the sage-brush without food or firearms. Nothing easier than to get a fugitive under such conditions. He's around the corner—in jail."

I asked if I might see the "amateur" hobo; and the detective accompanied me to the calaboose and introduced me to the warden, who brought out the prisoner.

He was a sorry-looking customer. It was not merely that his clothes were in tatters; it was his singularly emaciated appearance, his livid paleness, his bright, staring eyes. His skin seemed drawn tight over his bones, giving peculiar prominence to his features, especially to his nose.

Starving to Death.

"I know," I said. "I've seen men in your condition before — thousands of them during the great famine in India. You have been near death from starvation."

"Right!" he answered, in a voice wofully weak. "I'm a victim of circumstances. I'm no stew-bum—no vag. May I tell you my story from the very beginning?"

"Two months ago," he began, "I was employed as an engine hostler by the Illinois Central Railroad at New Orleans. I earned ninety dollars a month. The doctors said I showed signs of consumption. I determined to get up to New Mexico.

"I'm a saving man. I had three months' wages in my pocket, yet I resolved to beat my way to New Mexico like the tramps we often captured in the yards at New Orleans. That resolution led to—this," and he pointed to the iron-barred cells.

"I told no one of my plan; and alone, in the night, I crept through the yards to a box car I had previously selected for my purpose, on a train going west.

Lured by a Trap-Door.

"I chose this particular car because it had a small trap-door, a sliding affair, in the roof. The trap was for the passing back and forth of lamps. I counted upon that trap-door to help me to get out of the car, in case some one should come along and lock the side doors.

"I slept well the first night. The stopping of the train in the morning awoke me. It was stifling hot, and I wished to let in some fresh air by sliding open one of the side doors.

"But, try as I would with all my strength, neither of the side doors would open. Some one, evidently, had locked them during the night. But, no matter! I had my trap in the roof. I would open that, just enough to let in some air—for I had closed that trap the moment I entered the car in order to minimize the chances of detection.

"Imagine my predicament when I tried to open the trap and found that it wouldn't budge. Not till then did I recall that such trap-doors in some cars could be opened only from the outside.

"I was hungry and thirsty. Did I cry out and bang on the door? Nix! Discovery by the wrong person would mean, I supposed, arrest. I would wait a while. Probably at some station men of the right

sort, who would look the other way while I walked off, might open the door.

The Heat Unendurable.

"Sleep was then the best way to pass the time. I slept all day, till the gnawing of a famished stomach awoke me. I had been twenty-four hours without food or water. The train jolted frightfully. My bones ached. I was racked with pain from head to foot.

"To cry out now would be useless. With the train pounding along, no one could hear me. The heat became almost unendurable, and the sand of the desert was drifting in, filling my eyes and mouth.

"In agony I cried out! I realized how foolish I was to try this box-car riding. It seemed to me that my voice sounded exceedingly far away; but I was not sure on account of the noise of the train.

"After that I must have fainted. Then I must have slept a long time, for when I awoke it was again daylight, though whether morning or afternoon I knew not.

"Still, the train thundered and jolted on. Would it never stop so I could summon assistance? The third night passed. In the morning I found myself too feeble to rise to my feet. I had been three nights and two days without a bite to eat.

"The train stopped. Now I would be rescued, would be able to buy food and get water. I was cold, though I knew I must be in a hot country. I had chills—ague. Now I suffocated. My tongue was swollen, my mouth seemed to be filled with a hot potato.

"But the train was standing still. I tried to call for help, but could not utter a sound. The best I could do was to tap on the floor with my knuckles. No one heard. Hours passed. I guess I became delirious—then unconscious.

"When I came to I lay in a hospital in San Antonio, a mere shadow of a man. They told me that the car they found me in had lain unopened in the yards for two days and nights. That meant that I had been without food or water for five nights and four days!

"No wonder I was merely skin and bones! No wonder that the sight of food now nauseated me, while the sight of water drove me mad.

"But I recovered, of course. They

"ALONE IN THE NIGHT, I CREPT THROUGH THE YARDS TO THE BOX CAR."

discharged me from the hospital. Why I was not arrested for riding in the box car I don't know. I wish they had arrested me then—it would have been better. I wouldn't be suffering here.

"MAYBE IT CONTAINED FOOD."

"Certainly, I must have been still weak in mind, though strong enough in body to walk, for I went deliberately back to the railroad yards with an insane determination to hold on to my money and ride to El Paso free.

"The Sunset Express was ready to pull out. Next to the engine was the baggage express-car, its doors slightly open. I looked in. It was empty, save for a few fish-plates. I climbed in, unobserved, and sat down in the corner farthest from the door.

The Welcome Trunk.

"Just before the train started some one pushed the door open about two feet, and shoved in a *trunk*. The train started. I heaved a sigh of relief—for the door was left open. The trunk was yours.

"On the outskirts of San Antonio the train pulled up—and a man slammed the door shut, and I heard him lock it.

"Not till then did I realize the madness of my act in again attempting to beat my way. Was I again to starve? No! I was on a passenger-train. In twenty-four hours I would be in El Paso. I resolved to have patience, to go hungry bravely for that time.

"By nightfall I found myself suffering acutely, both physically and mentally. Recollections of my previous experience rushed through my head. I yelled and raved in despair. Food was my only thought. Food I must have.

"Presently a wild idea came to me. Your trunk! Maybe it contained food. I seized one of the fish-plates, smashed the trunk open, but found no food.

"A maniac indeed I then became. With a crazy notion of ending my life, I butted my head against the side of the car.

"I knew no more till the next morning. There was the smashed trunk staring me in the face. There were its contents scattered over the floor in my wild search for food. Now I'd surely be arrested, not only for a vagrant, but for a common thief.

"In desperation I tried the door. Imagine my astonishment when I tell you that the door opened.

"It had not been locked. Here was light, air, liberty!

"Quickly I made my plans. We were in the sage-brush. At the first stop I would leave the train, and take with me some of the clothes from the trunk. I would array myself in those garments, bury my own, and no one would then recognize me.

"That mad plan I carried out — all except the donning your clothes and burying mine. I seemed to forget why I carried those stolen clothes. In the pockets of your hunting-coat I found tobacco and a pipe. I smoked. The tobacco gave my stomach something to work on—till the rangers found me.

"You know the rest. I'm glad they ran me down. For I was slowly starving to death in the brush. I hope, sir,

that I have convinced you that I'm no common hobo. That is all."

Before I left El Paso that "free-rider"—the name he gave was Jim Somebody-or-other — was sentenced to thirty days on the work gang.

An Army of Hoboes.

I "hit" Tacoma, Washington, in November. There I learned that a veritable army of hoboes was passing through the city on the way to warmer California. The calaboose, so railroad yardmen told me, was filled with a new set of Weary Willies each night.

"The only room we've got for 'em is so full," said the keeper at the calaboose, "that I can't even crowd in myself to use the phone. To-morrow morning we'll escort the tramps to the Northern Pacific freight yards and order 'em to 'hit the grit' and put Tacoma far behind. Yet to-morrow night the calaboose will be full up with hoboes again.

"There's one man in there doesn't belong there," he continued. "It's that tall chap with the red whiskers. He's a lumber-jack—not a real hobo, you know—yet he and his kind, when they're 'jungling,' live a regular hobo life. The railroad police happened to round up that chap along with the rest."

I determined to be a part of that escort the next morning, and get acquainted with the tall, red-bearded lumber-jack. Before daylight the patrolmen and myself escorted some forty "stew-bums," "vags," and general wrecks to the Northern Pacific freight-trains; and while the unfeathered birds of passage scurried for means of flight, I annexed the lumber-jack and led him off to hot coffee and ham and eggs.

"The Simon-pure hoboes detest us," he said, as he tucked a fried egg in its entirety into his mouth. "They won't have nothing to do with us, 'cause we work. When we're 'jungling,' a lot of us get together, build a shack in the woods and live on the country-club plan.

Lost in a Box Car.

"I'll tell you a story you can verify, if you want to, by writing to the Missouri Pacific yardmaster, at Gurdon, Arkansas. It's a bill of particulars of how I got lost once in a mop box car—car and all.

"Some of us lumbermen travel same as those who never work. You'll find us on freight-trains from the Atlantic to the Pacific. My home's way back in Connecticut. Some years ago, at the end of my season in a northern California camp as a swamper—which is trimming branches from trees and clearing a road through the brush—I wanted to go back East and see New Haven once more.

"I got down to San Francisco, where I heard that a fast freight of only five cars was to go through to New York in six days. That was the train for me. It happened to be a very important, an unusual train—a silk-train, worth half a million dollars. Each of the five cars was filled with a hundred thousand dollars' worth of silk.

"But I didn't get out of California before the enemy discovered me and gave me the boot. Then I worked eastward till I got into Arkansas. There I 'changed cars.' I'd had enough of trucks. I wanted a nice, comfortable place to stretch inside of a car. And I got it—a car on a mop train, half filled with boxes of canned salmon. Say, wasn't that salmon great?

A Banquet on Salmon.

"As soon as they locked me in all snug I knocked off the cover of one of the boxes, used a nail for a can-opener, and began feasting on Columbia River salmon.

"On the second day something the very queerest happened. Locked in, as I say, I was not on to the game. The car seemed to rise up in the air and shoot off sideways. Then it plumped down and stood still. Then all was silence. I just kept guessing the rest of the night and all the next day, consuming canned salmon meanwhile till I was sick of it.

"All that time, bear in mind, I heard trains passing my car, right beside me. I had not been side-tracked, for there'd been no backing, no pushing, no slamming. Had the car been lifted bodily out of the train and placed on another track? I gave it up, and ate more salmon.

"The second night, though, I heard men come up a swearing all round my car—a gang of 'em. Suddenly the car got a move on, bumpity-bump, as if they

were hauling her over the ties. In a minute, however, we rolled on smoothly, as if on the rails again.

The Yardmaster's Smile.

"In the morning the car was opened, and a man began unloading it. I hid behind the boxes. When he went away for dinner I skidooed. I found myself in Gurdon, Arkansas. More curious than I'd ever been in my life to know what kind of railroadin' I'd been subjected to, I walked up to the yardmaster's office and asked for a job, by way of getting safely into a conversation.

"The yardmaster seemed daffy about something that had happened in the yard, laughed like he was dippy, and mumbled something about a 'cock-sure conductor.' Then he turned to me and turned on the gas. And the long and short of his illumination was this:

"As that night freight, of which my car was a part, neared Gurdon, what'd that salmon diner of mine do but jump the rails and slide to the left into a ditch.

"Now, here's the freak part. As soon as my traveling restaurant cut herself out, what's the caboose right behind me do but roll forward and couple herself automatically to the train. So much for freak railroadin'.

"Now for that part that made the yardmaster smile out loud. When that freight-train pulled into the yard at Gurdon the conductor reported all present and accounted for and went home to bed. In the wee small hours a call-boy woke the conductor and told him a car was missing from his train.

"'Go chase yourself,' said the conductor. 'Didn't I tab that car into the train? Of course she's there.'

"That'll be about all, mister, except that I expect that mop freight conductor had to set up the soda-water good and plenty for that yardmaster. What's that? Did the yardmaster give me a job? Well, now, he certainly approached me along that line; but, you see, I had the New Haven bee in my bonnet, so I just sidled away from that kind yardmaster."

An Inhuman Mother.

Here's another free-rider tale—the inhuman act of a young mother, that led to the rehabilitation of a human derelict.

At Los Angeles—in the same month of my visit to Tacoma—I saw more tramps in the railroad yards than probably could be found in all the other railroad yards of California. Los Angeles in winter is the hobo's paradise. In the Santa Fe Railroad yard I talked to many of the arriving free-riders, and the story of one in particular has an unusual touch of pathos.

"THE SIMON-PURE HOBOES DETEST US."

"You fond of babies?" he said. "I am. Nearly lost my life two nights ago—for a baby.

"I was at the fag end of my journey from Kansas — nearing Los Angeles. Kicked off a freight-train, I took a seat on the steps of the rear car of the Santa

Fe's crack train, the California Limited, hoping to ride into the City of the Angels in grand style.

"Just after we passed a place called Cucamonga—as I'm a living man—I saw a baby thrown from one of the forward cars of the train. I heard that baby's cries distinctly, for the train was not going very fast.

What Memory Did.

"In a flash I thought of my own baby, now lying in a Kansas graveyard. Thoughts of how happy I'd expected to be with my baby now ran through my mind. My wife died, you see, and our baby lived several months. I took care of him myself. Then he, too, left me.'

"That discouraged me. I gave up. I drank. I lost all, pawned all, went down, took to the road, and here I am—a human derelict.

"While all that I've told you flashed through my brain, I jumped. Now, when you say a limited isn't going some, you mean faster than a freight, but not fast for a limited. When I jumped I learned how fast a limited is going when it's going slow, for I can show you a body black and blue and—just look at that swollen ankle.

"I limped, dragged myself, up the track to where the child lay in a mass of soft mud. It still lived, blubbering weakly. 'What fiend has done this awful thing?' I asked myself.

A Helping Hand.

"Would the baby live? I picked it up and petted it. And then I exclaimed, just as if some one was listening, 'I'm only a tramp! What if I take this baby to the nearest house? Maybe I'll be arrested for kidnaping. No. I must leave the baby just as I found it, and go for help.'

"Just east of the track I saw a light in a window. I made my way, painfully, toward the light—found it was in a ranch-house where lived a Mr. Mattock. I told Mr. Mattock of the baby by the track, and how it got there. He wouldn't believe at first that any one could be so inhuman as to cast a baby out of a car window from a moving train. When we reached the baby Mr. Mattock said:

"'I don't dare move that child without authority. I'll telephone Constable Ruff.'

"While Mr. Mattock was phoning I took the baby once more in my arms. I

"I'M ONLY A TRAMP!"

billed and cooed over it. Then, when I heard Mattock returning with the constable, I kissed that baby, laid it gently in the mud, and then slunk away into the night, like the tramp I am.

"Since reaching Los Angeles I learn that they got the fiend who tossed that six-weeks' old baby from that car window—a young woman of San Bernardino. She hoped in that way to get rid of her child. Think of it! She's under arrest. The baby lived only a few hours after I left it.

Driving Them Out.

"I believe that my experience with that baby has had the effect of arousing in me an ambition to face the music once more and work for a living. I'm glad of these bruises. They make me think of my own baby boy, and of how, maybe, I ought to work for him even though he ain't here."

Free-riders at this time were pouring into Los Angeles in such hordes on every

freight-train that certain yardmen were put on extra duty, in the way of handing the boes over to the police. Rough-riders of the rail arrived in such big bunches, indeed, that Mayor Harper and Police Commissioner Cole put their heads together and caused a sign to be placed in the railroad yards reading like this:

Hoboes, stick to your Pullmans and keep moving.

Long sentences in the chain-gang given here.

Sixty to ninety days our specialty.

Notwithstanding these warnings, free-riders arriving at Los Angeles forsook their "Pullmans" in such numbers that Sheriff Hammel was obliged to keep his shower-baths in the county jail going night and day in an effort to maintain cleanliness within his gates.

Now, among the tramps who submitted with more than usual reluctance to the sheriff's soap and water was one known as Idaho Red—a free-rider whose arrival in Los Angeles had been marked by a most amusing experience.

Idaho Red was snoozing in an empty box car, when the train pulled up at a desert water-tank. There two other free-riders climbed into Idaho's red car—one a tall, lanky man, and the other fat and very much sawed-off. The garments of the newcomers were torn and tattered and covered with dirt and mud. Their shoes were typical. Both were hatless.

"Howdy?" said Idaho Red. "Youse goin' to Los? That's a awful town jist now for us unhappies. They pinch us and parade us through the town in the chain-gang. Got a chew?"

"I'm the Governor."

All this time the tall thin man and the short fat man glared at Idaho Red with expressions of indignation, as if to say: "How dare you be so familiar?" Presently the tall man put his hand on the bare and touseled head of the short man and said:

"This is the mayor of Los Angeles. And I—I am one of the police commissioners."

"Glad to know your honors," promptly replied Idaho Red. "Permit me to introjuce me own self. I'm the Governor of California."

Just then a shack jumped into the car and said: "Dig up—every ging in here, or out you all go."

I do not mean to imply that brakemen on California trains are in the habit of making tramps dig up in return for letting them travel in peace. I merely quote the remark of one particular brakeman as I got it in relation to this specific instance.

Idaho Red dug up without a word. And the "mayor" and the "police commissioner" followed the example of the "governor."

The shack then left the three free-riders, with the tacit understanding that he would not report their presence to the con, and the tramps began an animated powwow that continued during the remainder of the journey to Los Angeles, the tall man and the short man plying Idaho Red with dozens of questions concerning the view-point of free-riders with regard to their treatment by the authorities in the City of the Angels.

Arriving in the Los Angeles yards, Idaho Red handed his new friends this advice: "Now, beat it, for if youse linger, youse will get pinched sure."

Make a Get-away.

The "mayor" and the "police commissioner" made their get-away successfully; but, sad to relate, the "Governor of California," less spry than the others, got pinched before he left the yards, and was taken to Sheriff Hammel's jail and subjected to the indignities of suds and aqua.

Coming from the shower-bath with a look of reproach suggestive of the cat that has just emerged from a rain-barrel, Idaho Red proceeded to relate the incident of his meeting with the short fat man and the tall thin man in the box car.

When told that the short fat man was really and truly the mayor of Los Angeles, and that the tall lanky man was actually the police commissioner of the city, Idaho Red's remark was:

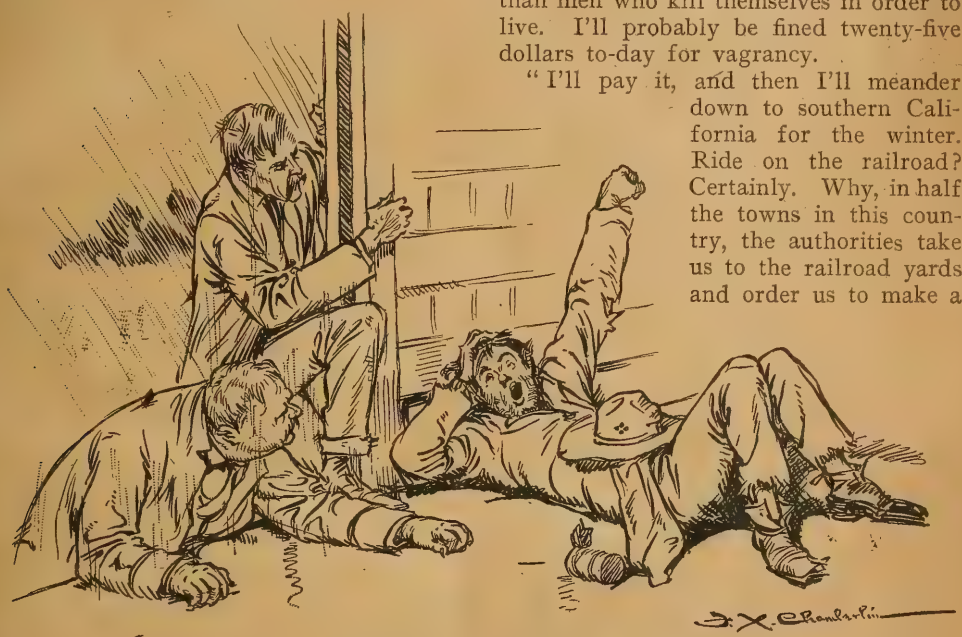
"Cert! Of course they were. Just the same as I was the Governor of California."

But Idaho Red's friends were the offi-

cials they declared themselves to be. Why had they turned hoboes? Mayor Harper and Police Commissioner Cole had set out in an automobile to inspect certain public works far out of the city. Out on the desert their car became disabled, and they were obliged to foot it through rain and mud for miles and for hours to the water-tank station on the railroad. That's all.

"The Lady Riders."

From railroad men and others, in my rambles about this country, I have heard some strange tales of free-riders who were "rich," and of free-riders who were "females."



"HOWDY?" SAID IDAHO RED. "YOUSE GOIN' TO LOS?"

In San Francisco a Southern Pacific man, having a run into Stockton, told me of a free-rider who had been yanked out of a box car in the Stockton yards and taken to the lock-up. He gave the name of Edwin Hess. When searched twelve hundred dollars in currency was found on his person.

"But why, with all this wealth," he was asked, "do you travel in box cars instead of Pullmans?"

Edwin Hess made this extraordinary reply:

"I am a vagabond. I want to be a vagabond the rest of my life. I beg sometimes, and I make in that way more than most laborers. I'm never sick—I'm happy all the time. I'm better off than many men who work. I travel and see new places, new faces—and the railroads carry me free.

"An occasional thirty days in jail is just a period of rest. I've seen far more of the world, enjoyed my life more than thousands of men who stick to their jobs and have homes. And, as you see, I've saved as much money—maybe more—than men who kill themselves in order to live. I'll probably be fined twenty-five dollars to-day for vagrancy.

"I'll pay it, and then I'll meander down to southern California for the winter. Ride on the railroad? Certainly. Why, in half the towns in this country, the authorities take us to the railroad yards and order us to make a sneak out on the first freight that comes along."

A. D. and R. G. man at Denver told me of a young hobo who was found in a box car of a Santa Fe freight at Colorado Springs, and taken into custody. A startling discovery was made. That hobo was a girl. Her name was Bessie Boyington. Her hair was cut short; she wore boy's clothes; she was pretty. She said she had been traveling about the country for a year—free-riding on the railroads along with men tramps.

And she didn't mind talking about it.

"I feel jim-dandy," she said. "I'm in perfect health, and that's more than

can be said of girls who have not the courage to turn tramp."

The Romantic Part.

But, though I could not learn all the details, the most romantic part of the story of Bessie Boyington, free-rider, was that, when liberated from the jail at Colorado Springs, she fell in with a New Yorker of some wealth, and married him. In hoboland, on the Colorado railroads, she was known as "Red-White-and-Blue Bessie."

Another female free-rider I heard of in California. She was the wife of a teamster of San Francisco. The teamster's name was Joaquin Ferrer, and he was a member of the Brotherhood of Teamsters. After the fire he could get no work. He had saved not a penny, and he and his wife deliberately turned tramps.

After free-riding to Los Angeles and back he brought his wife some money. He pictured to his wife the allurements of free-riding; and Mrs. Joaquin Ferrer declared that she herself would become a free-rider.

They set out together in a box car, having resolved to beat their way to Los Angeles. Arriving there, the husband was arrested, but the wife induced the yardmen to let her go.

A couple of months later a hobo, while beating his way on a freight-train, near Banning, California, fell asleep while riding the rods. He fell from the rods, was run over, and both legs were severed at the knee. They took him to a hospital at Riverside, and there found, in his pocket, an old card of the Brotherhood of Teamsters of San Francisco, bearing the name "Joaquin Ferrer."

The News Spreads.

Stranger than fiction, that same day a woman hobo emerged from a box car of the Salt Lake route, at Riverside, California, and was informed by certain male hoboes—among whom such news travels fast—of the free-rider who had that day been run over and lost both legs at Banning, and of how he had been brought to the Riverside Hospital, and of how he had been identified as a teamster of San Francisco.

The woman hurried to the hospital, only to be told there that Joaquin Ferrer had died a few minutes before her arrival. "My poor Joaquin!" she cried. "I wish this had come to me instead of to him." And Mrs. Ferrer showed that the love that passeth understanding exists among free-riders just the same as among people who pay railroad fare.

A free-rider of the lowest class fetched up in Tucson, Arizona, on the rods of a car of a Southern Pacific freight. In broad daylight he jumped boldly from the rods, directly in front of the Southern Pacific headquarters building. At that moment a pretty girl happened to pass. The hobo looked at her once, twice, then followed her up the stairs of the headquarters building to a room on the second floor.

The girl was Miss Minnie Clauberg, telegraph operator, on duty from seven to five every day in the week. Of a sudden, she looked up from her key to find the poorest semblance of a man staring and leering hard at her. The stranger asked her a number of questions, none of which Miss Clauberg answered. Finally, the greasy man slouched away.

Willing to Marry.

Next day Miss Clauberg found a bit of wood lying on the table in her office, on which was scribbled these words: "I want a certain pretty girl for a wife."

She showed the *billet-doux*—which she has to this day—to Chief Lineman Jack Shahan, who doubled his big hand into what looked like a sledge-hammer and said: "You just wait, Miss Clauberg."

Next day the free-rider showed up in the hallway of headquarters, on his way evidently to Miss Clauberg's room. Jack Shahan was right there, too.

Biff—bang—thud! Down and out went the tramp! When he reached the bottom of the stairs he saw something more than stars. He beheld Jack Shahan standing over him, saying:

"There's a freight pulling out of here pretty soon. You better travel on it for your health."

He stood at the end of the depot platform until it came along, and then he deftly slid into an empty. But, thank Heaven! his kind is pretty scarce.

RONAN'S FIVE MINUTES.

BY ROBERT FULKERSON HOFFMAN.

An Ill Wind Blows Some One Good, High Under the Southern Cross.

"YOU are accused of being a mechanic. What have you to say about it?"

There was not a shade of relaxation or humor visible in the face of Philip Amend, senior member of Philip Amend & Sons, contracting engineers.

He had turned abruptly in his chair and launched this challenge into Ronan's lax senses as though he were casting a spear.

"I will plead guilty to that," replied Ronan quietly and without a moment's hesitation.

"Well, it's worse than that," continued the cool and even voice of the senior Amend. "You are accused of being a first-class mechanic, and it is said that you can handle men. What do you say to that?"

Ronan, standing, hat in hand, in the quiet seclusion and rich plainness of Amend's Broad Street office, was not the figure of a man that a discriminating person would select to play with, even at long acquaintance.

There was a poise of the head and shoulders, an upstanding alertness in his big, clean-cut body, and, most of all, a level steadiness of the eyes that forbade familiarity.

And yet Mr. Amend was, of necessity, a man of fine discrimination.

While he had never until then seen the head of the house of Amend, Ronan knew New York—which is another way of saying that he knew both men and manikins pretty well.

His calm eyes, therefore, made a swift and comprehensive inventory of the severe but good appointments of the big room in

SAT DOWN TO WRESTLE WITH HIS PROBLEM.

the center of which he stood, fell in cool scrutiny that seemed to crumple as by frost the look of calm superiority on the face of Amend's secretary, and settled back with definite purpose on the face of Amend, before Ronan answered:

"To advance the case as a whole, whatever it may be, I plead guilty to both counts."

"Sit down. Take this chair, won't you?" said Amend, after a moment's silence, indicating a position where the light of late morning must fall full upon the face of Ronan. "You don't seem to get rattled easily," he volunteered when Ronan had settled into the chair close at hand. "Perhaps we shall do well to get better acquainted.

"My son requested you to send in a card, when you could find the time? Yes. He did not say why or whither, I presume? No. That was right, so far, and now, no doubt, you would like to know why we have ventured to make that request.

"I should like to have you undertake a small matter for us in a big way, and leave here as soon after to-day as you can get your necessary belongings together."

"Where?" asked Ronan, concealing his surprise at the depth and intentness of meaning that the conversation had suddenly assumed.

"There," replied Amend, whirling the globe at his elbow with the swift touch of long and constant use until his finger-tip rested lightly upon a spot below the equator.

"As what?" questioned Ronan very quietly, while his eyes fastened upon the place indicated, and a dull flush of color surged strongly into his face.

"As master mechanic of three hundred and odd miles of Andean railroad, and first man in line for promotion," was the unhesitating reply.

Ronan searched the face of Amend for a moment before he asked:

"The salary?"

"Eight hundred a month, gold," replied Amend; "and you need not take the trouble to go into your personal experience or attainments. I know all I wish to know about your previous history just at this time. When would you like to give us your answer?"

Ronan could not repress a smile as he arose; but it was because of the unerring certainty with which the conversation had been launched and hurried to its evident end, and not because of any elation at the suddenly opened prospect.

He had done things with locomotives in the busy hives along the Juniata. He had been captain of herders, as it were, at the great, open-air engine corral in West Philadelphia. He knew, also, things that can be learned only at first-hand where Chicago—the railroad sun of this railroad firmament—radiates fleeing, hurrying locomotives to every point of the compass as prodigally in proportion as the veritable sun projects its shafts of light.

He knew the mountains and the plains and something of the peaceful valley work of this land of endless railroads; but in that other land—that land of *mañana*, of to-morrow, below the equator— What?

He knew, by report, that ill winds have a way of striking as from above; that untoward things have a way of happening there—where all except the white man do all things to-morrow, and where he, too, unless he be made of the sternest stuff, soon lapses into that fatal lethargy of *mañana*.

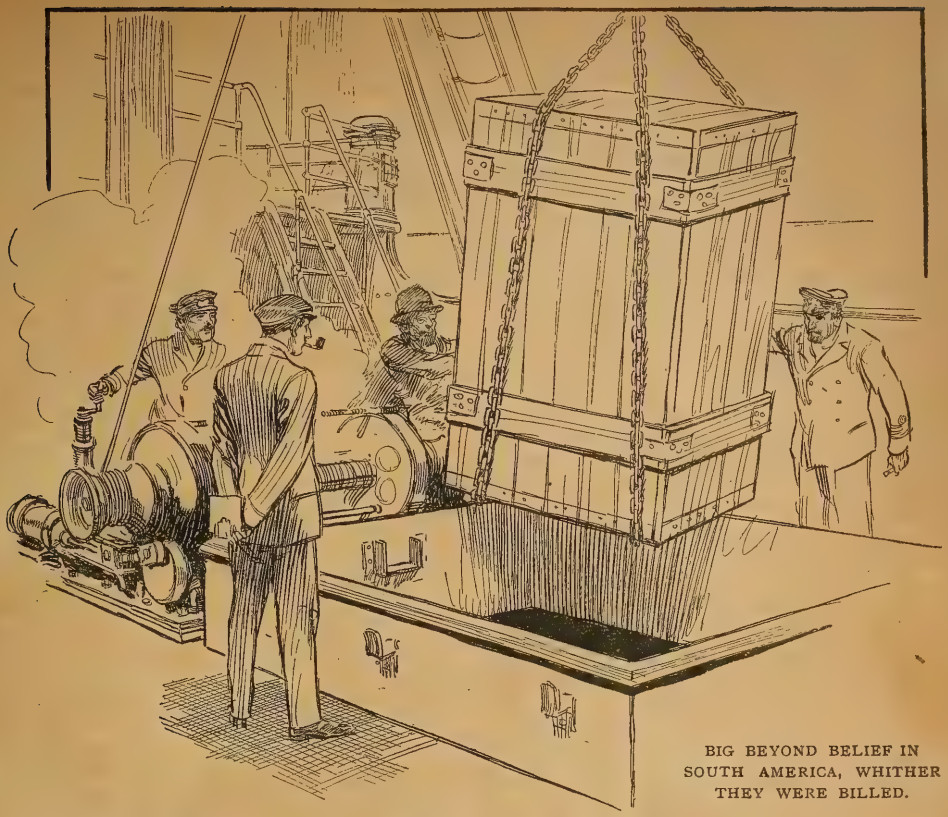
"In an hour I will return and answer," he said, and, with brief adieu, passed out to the elevators and to the din of the street.

"I thought so!" muttered Amend, grimly smiling at the little Peruvian silver grotesque upon his desk, while the express elevator swiftly dropped Ronan to the street level. "He will decide it to-day—not to-morrow. He is our man."

It was something of a decision for a man no older than Ronan to make. He was not yet thirty; he was well-established in the railroad offices in a near-by cross-street; he had the usual substantial chances of slow promotion and meager salary of the older Eastern railroads.

There was, of course, permanent or temporary relief by death or pension at the end of the long run, according as the die might fall for him.

In sharp contrast to that, an ever-present allurement looming large was the Western railroad field—that mightiest of industrial battle-fields, holding forth its tempting rewards of quick recognition, place, money, and power to the young,



BIG BEYOND BELIEF IN SOUTH AMERICA, WHITHER THEY WERE BILLED.

clear-headed, and capable. The *wanderlust* was strong in Ronan's blood. He had fought it at times as a man fights a malady. The spirit of adventure and the indomitable pluck that had sent his Scandinavian grandfather pioneering into the great Northwest two generations ago had, in turn, sent young Ronan adventuring eastward.

From Altoona, as an Eastern beginning, he had grown by slow and painful processes to a modest place in the official line. He had come to know New York when the flush of his strength was at its highest — when the sullen roar of the city's life by day and the pregnant silences of its nights thrilled him with a sort of exaltation at the mere fact of survival in that maelstrom of human life. A score of years, perhaps, would pass before he could properly detest it and turn again to the open.

The sense of nearness to the pulse of the world, the far reaches down the bay to the open sea, the virile tang of brine-soaked shipping at the piers, and the rich, mixed odors of sea and cargo along the water-fronts, had, from his first experience of them, stung Ronan's senses.

But, like a stoic, he had held them all in check with a master hand. The gay enticement of the city's life, the call of the West, and, most insistent of all, the call of the sea and of that mysterious land of *mañana,* he had put resolutely aside, until now he had come unexpectedly to look upon a daring parting of the ways when he had meant only to pursue the staid and conventional path to a commonplace success.

Reaching the street, he thrust his way unceremoniously through the fringe of yelling curb brokers that overlapped from the turbulent crowd in the middle of the street and obstructed the sidewalk. He threaded his way more carefully through the gloomy and cluttered narrowness of Wall Street, and, crossing Broadway, entered the gate of old Trinity churchyard, and sat down in a favorite nook to wrestle with his urgent problem.

There was nothing in the expression-

less marble slabs of the churchyard to contribute to the answer, save that, fare forth however bravely and where they might, all men came there, or to a similar pass at last. But the chimes in the tower, ringing out the noon-hour, sent a theme of triumph and rejoicing down into the secluded churchyard and out into the roar of the street.

Ronan arose from his seat and plunged into the northward current of Broadway. He suddenly felt that he must get closer to the heart of the giant, complex life of the crowd once more before he could decide.

Shortly he was dropping from a car at Twenty-Third Street, and a few moments later he was seated in the glazed bay of a near-by café corner, where, himself unobserved, he looked out upon the midday flood of humanity that hurls itself impersonally upon the massive prow of the Flatiron Building and falls away again into the divided currents of Broadway and Fifth Avenue.

Ronan ate with the unabated hunger of youth and perfect health, and while he was thus engaged the matter somehow shaped itself in longer and more comprehensive perspective. Who would miss him a year hence if he dropped out now from that scurrying throng beyond the window-ledge?

He laughed quietly over his solitary meal for answer.

Well, for the matter of that, who would miss him if he dropped into a crevasse in the Andes for a time, and eventually dropped out again?

The answer was not so ready.

A week later Ronan was looking into the open hold of a vessel tied up at the Spanish-American docks, just north of the Battery. He was carefully observing the handling of numerous huge packing-cases, containing the detachable parts of some locomotives, big for their day and generation, but big beyond belief in South America, whither they were billed. The locomotives, stripped as closely as need be, were already safely stowed in the capacious hold; and Ronan was booked to go out on the same boat, to have one of them later give him the worst five minutes of his life.

No hint of that, however, appeared in the repose of the big, silent hulks of the engines in the shadowy hold, and, of course, there was no hint of it in Mr. Amend's parting instructions.

"Yes," said he, "I should like it if you would go with the cargo. You may be useful before you get them ashore, and, in any event, I have a theory that a man who works for us down there is the better for going around the Horn or through Magellan and looking at his job at long range going up the west coast. It gives him a wider perspective.

"Then, too, if he is going to curl up and wilt, he generally does it when he gets his first sight of the Andes from the Pacific, and goes right on up the coast and reneges by way of Panama.

"Not making any forecasts in the present instance, you understand, but—well, it offers you a broader perspective, as I have said."

"Certainly. I shall be glad to do that," replied Ronan. "That is," he hastily added in the tone of a man who has no intention of reneging, "I shall be glad to go through with the locomotives."

Some days later the ship was threading the crooked ways of Magellan, and Ronan, looking from the ice-hung crests and rocky sides of its desolate mountains to the forsaken, inane faces of the Terra del Fuegans crouching, starved, and half naked on their littered shores in the sodden July midwinter, silently thanked Providence and Philip Amend & Sons that his task lay elsewhere.

In due time the ship, with its epoch-making cargo, covered the northward coastwise journey to the open roadstead in front of that little city well below the equator, where Ronan's real responsibility began.

He wakened one morning to find the ship anchored and rolling in the sickening swell of waters that are ceaselessly whipped and mauled by the chill antarctic winds; and that widening of his perspective which the senior Amend had foretold, and which had been progressing apace since threading the straits, was greatly furthered when he turned his eyes shoreward in the early morning light.

From among all the days, weeks, and months of lowering leaden sky that followed while the Pacific arched its saving waters high upon the winds over the cor-

dillera to the fertile eastern slopes and left the sterile coast untouched of rain, that first morning was reserved and set aside for Ronan's welcome.

While he stood gazing, spellbound, over the dry benches of sand and rock which rise magnificently, terrace after terrace, from the wind-swept shore—over the first grand uplift of the giant mountains to the vast table-lands beyond—the dim, gray background of the nearer heights was torn asunder by a vagrant cross-current of the upper air, and the distant, ultimate, upper heads of the second cordillera stood forth for a moment, pink, white, and tipped with ice, fire, and gold against the immaculate blue of the sky.

That one glimpse of the mysterious upper world of the mountains was brief as it was beautiful. The gray cloud-pall closed its brilliant rift, and Ronan's practical mind came back, with an unconscious sigh of regret, to the rolling and wallowing ship and the chortling and swaying lighter-cranes, which were already dropping their tackle-blocks into the hold in search of cargo to be lifted.

"Well," said Ronan to the first man who came abreast of him on deck, "a man might fail here, or up yonder"—with a sweep of his arm toward the vanished upper world—"but he ought to win. And if he failed and died, he ought to be able to die well in a place like that!"

"Oh, a man can win here," said the experienced one to whom he had spoken. "He can win; but it costs a price. It always exacts something which he has not offered, and — yes, men have died up there."

A month saw Ronan thriving in full charge of motive-power affairs. His three big locomotives, like himself, were safely located in the railroad headquarters town, one hundred miles back from the coast and seven thousand feet higher in the mountains. The engines had worked their way up satisfactorily thus far, and now Ronan and the general superintendent, Verrill, faced the task of taking them safely up to their final assignment in the fastnesses of the higher cordillera.

Thus, an evening in August found them sitting amid the wordy babble of the Alameda, near the extravagant little fountain of onyx that dripped and gurgled in the mountain city's brave array of gay flowers, willows, and eucalyptus. All things centered in the Alameda, and between its rows of sparse trees and brilliant blooms many things, at one time and another, had their vivid inception, from the first lambent glow of a pair of liquid, dark eyes to the hasty making and the early destruction of dictators and dynasties. They were planning the dangerous ascent of the higher mountains with the new engines, while distant Illimani caught the last golden glow of the sun upon its lofty crest of snow and held its evening glory high above the circle of the surrounding heights.

"Two tunnels—" Ronan was saying, when Verrill interrupted with an apologetic wave of the hand.

"Three, Ronan; three in less than the length of a decent rifle-shot—and twenty more tunnels, for the matter of that. But three where we bridge Rio de los Animas de Perditas at the highest, and three times we cross the river within a mile's length of track!

"The channel there is in the form of a big letter 'S,' sunk flat six hundred and fifty feet deep in the solid rock."

"Yes," Ronan quietly agreed. "There are three tunnels there, but two of them are tangent and west of the curved bridges. They need give us no special concern. It is the tunnel of nineteen degrees curvature, opening directly off of the first of those bridges—the bridge that spans the cañon from sheer wall to sheer wall—that is troublesome.

"The chief engineer declares that he will not consent, now, to working the new engines under their own steam across those two bridges. Nor will he consent to have them taken over coupled close to a lighter engine. I put in this whole afternoon with him up there, and there is only one other way to take them across.

"There he is now, Verrill! Call him over, and let us have it out with ourselves. You say you must have the engines working higher up until these lower bridges are strengthened."

"Ho, Merritt!" called Verrill, as the engineer approached in the moving throng beyond the first line of eucalyptus. "Will you join us for a smoke?"

A minute later the three men were deep in the problem that confronted them.

"No, I cannot consent," Merritt was saying with fixed determination. "It would be criminal. The weight of the water in the boiler and the thrust of the driving-wheels upon the rails are the two things that I cannot guarantee the result of, in addition to the dead weight of the engine.

"And to put two engines upon the bridge at once is, of course, quite out of the question. The factor of strength remaining would be entirely too small, and I will not consent.

"Mr. Ronan, you spoke to-day of a plan. Can we not consider it to-morrow?"

Merritt had been long in the land of *mañana*, and almost unconsciously he spoke at times in the language of to-morrow.

"To-night," replied Ronan. "Now, if you will.

"The longest bridge there is one hundred and sixty feet. We have among our stores a one-hundred-and-seventy-five-foot hawser that will tow the empty engine, and a little more, without its tender.

"If Mr. Verrill will agree, we will couple three empty flat cars behind to supply hand-brakes, hitch the rope to the new engine's draw-bar, and send one of the older, lighter engines ahead to pull her over the bridges and through the short, curved tunnel.

"We have also some strong oaken rollers, which can be fastened by their brackets vertically upon the short wall of the tunnel's curve at points that will fend the rope from chafing upon the sharp rocks after the live engine enters the tunnel. Once the strain of the rope is settled upon the rollers, they will be held all the tighter and safer against the rock, in addition to the firm fastenings we can arrange for holding them in the beginning."

Point by point, they went over the plan until it was complete in each particular, and the following day witnessed the operation in the late afternoon.

Eleven thousand feet above the level of the distant Pacific the powerful little locomotive was noisily dragging its giant substitute through the half-twilight of deep Perditas Cañon. Between the engines the big hempen rope stretched taut over the straight bridge. Behind the dead and empty new engine trailed three light flat cars, each with its pair of *mestizo* trainmen manning the brake-wheels for emergency—dubiously, but chattering in excitement at the novelty of the thing.

Two hundred feet below, the Rio Perditas writhed and roared and tumbled in its narrow bed; and, above, the sheer walls rose straight, four hundred and fifty feet to the ragged lips of the narrow cañon.

Just ahead lay the last of the two straight tunnels, with its grade of one hundred and ninety-five feet to the mile, and at its farther end the track again crossed the Perditas upon one hundred and sixty feet of open, curving bridge, springing directly from one face of the perpendicular wall of the gorge to the opposite straight wall, and disappearing in the curving tunnel of nineteen degrees curvature and heavy grade.

There, at the nearer mouth of the curving tunnel, Ronan, with his hand resting upon the first oaken roller-fender, well bolted to the face of the rock, stood upon the lofty steel webwork of bridge and listened to the steady roar and echo of the laboring engine's exhaust.

He looked far down upon the writhing waters, and realized to the fullest that he had hung his reputation, and much more, upon that single straining rope that was creeping toward him in the opposite tunnel. Shortly the working engine pushed its front out of the wall of the cañon at the farther end of the bridge, and crept over to where he waited.

The plodding engine passed him slowly, and the slant of the great rope, strung taut from its draw-bar, sheared its way beautifully to place upon the oaken guard-roller on the lip of the tunnel. The working engine disappeared when the front of the new engine was just showing in the opposite tunnel's mouth and all going well.

Then the dead engine loomed big in the dull, gray light upon the frail bridge, responding to the steady, careful draw of the rope. The great hulk of her was moving slowly across the middle of the lofty steel span, with Ronan tensely watching the smooth play of the rope upon its fender, when the one thing that he dreaded occurred.

The steady exhaust of the working engine, now well on its slow way through

THE FENDER-ROLL AT THE TUNNEL'S MOUTH RIPPED LOOSE WITH A CRASH.

the short, curved tunnel, suddenly broke to a muffled roar, and Ronan straightened and stood clutching the rock like a man struck deep and hard. His eyes were fixed upon the big, straining rope, which suddenly seemed but a mere thread among the massive cliffs.

While he stared, helpless to avert it, there came the fatal sag that he dreaded. The great rope sank almost to the bottom end of the fender-roll, snapped upward perilously, and sank again.

The forward engine was slipping in the drip of the tunnel! The sanding of the rail had been allowed to fail!

An instant more, and it was done.

Another sag, and the rope caught under the fender upon the rock. The spinning engine-wheels ahead caught hard upon the hastily sanded rail and took fierce hold. The rope drew taut with a snap against the first backward movement of the dead engine and cars, and the straining fender-roll at the tunnel's mouth ripped loose with a crash.

Twice the rope sawed upward upon the jagged rock of the tunnel's curve, and then it broke with a great whip-like snap and snarl that whirred and echoed through the narrow gorge.

The backward half of it came writhing and hurtling out of the tunnel, and, whipping around the dead engine, struck a slashing blow above the heads of the frightened trainmen.

"Set them!" shouted Ronan, before the first backward movement was fairly begun. "Set the brakes!"

But they fell upon their faces and lay there cowering, while the engine and cars rapidly accelerated their slow backward movement and quickly disappeared in the straight tunnel.

Only for an instant Ronan had stood paralyzed at the sight of the men's inactivity, and then he leaped out recklessly upon the cross-ties of the bridge and raced madly after the runaway.

So quick was his start, and so cumbersome the train's first movement, that, in the beginning, he gained upon it. He strained forward in a heart-breaking, final effort in the tunnel, and succeeded in touching the rapidly receding pilot-beam of the engine. But it drew steadily out from under his clutching hands and threw him prone upon his face in the darkness.

He gathered himself quickly, and ran on again to the lower end of the tunnel. Just outside he found the frightened train-crew, nursing their bruises, huddled in a bay of the rock where they had tumbled off, pell-mell. The runaway was hurtling down the crooked cañon, scattering its engine trappings at every curve and too close shelf of rock.

With one bitter execration wrung from him upon all the sullen, ceaseless menace of Perditas Cañon, Ronan stood watching the destroying flight of the train down the steep and crooked grade, with Verrill's words of the morning ringing in his ears:

"I have a trip up the cañon today. I'll make it a point to be up there with my car and another engine when you make the pull over the last bridge!"

Poor Verrill! If he met that awful bolt of destruction hurling itself down upon him in the cañon — and he must, if it stayed on the rails but little longer!

At the first sharp turn of the track, a few hundred feet away, Ronan saw the wild careening of the engine sweep off the stack, bell, and running-board against the overhanging point of rock. As the first flying fragments lifted into the air he thought the end had come, and held his breath while he waited to see the entire fleeing mass topple into the gorge.

But she righted herself, and shot out of sight, with the flats still dancing on ahead. Again he saw her

DASHING BATTERED HULK AND FLYING FRAGMENTS BACK AND FORTH, FROM WALL TO WALL.

flash into view, lower down, and toss shivered fragments high in the air and into the gorge, while from far, deep down, almost directly beneath him, as it seemed, the feeble whistle treble of Verrill's special engine floated up chokingly, struggling for notice above the roar of the river and the destroying runaway.

So it must be! None but the Maker of the mountains could avert it now. Verrill and his crew were doomed!

Ronan's mind flashed back in that instant to the morning in Amend's New York office, and his own words, then so lightly spoken, rang in his ears like the knell of doom:

"I will plead guilty to *that!*"

And what of *this?* It had been of his planning, his execution—all his, but the stupefying slip in the tunnel, against which he had cautioned, first and last. He saw his own life going out in dishonored memory as the price of the lives of the men who would, in a few moments, die down there below him, almost within his sight.

He saw in his mind's eye, all that and more, in those few crowded minutes, and then, for the last time, he saw the big engine flash into sight again, stripped of its cars, somewhere in the three and a half miles through which it had miraculously staggered.

Even then, it was only a scant mile straight away from him, but far below, and speeding along the mountainside in a shaft of daylight that penetrated the narrow barrel of the cañon.

He saw her rush at the point of the last distortion of the cañon wall that lay in the line of his sight. She struck it with a furious lunge that sent rails and ties twisting and whirling in the air, and, suddenly, her head end went down close upon the dizzy brink of the gorge.

She threw her shattered cab crashing in a mass of splintered rubbish ahead of her into the depths, and leaped after it, dashing battered hulk and flying fragments back and forth, from wall to wall, until the boiling waters far below swallowed them.

And then, while Ronan stood fixed and staring from his lofty lookout, the treble of Verrill's engine whistle came up again, more clearly, and the little engine, drawing the superintendent's car, shoved its bright brass-trimmed front end round the lower point of the shattered curve. It crept to a stop in a shaft of gray light, just short of the six hundred and fifty feet of spread track which the lost engine had left, in its final riot, as the only trace of the disaster.

That ended what Ronan unhesitatingly calls the worst five minutes of his life. And, to those who are so fortunate as to find him very comfortably, even luxuriously, at home in one of the many little earthly paradises of the Andean cities, he will sometimes tell, especially if it be a newcomer who is inclined to despair of South America, how he once sent in his resignation within sixty days after his arrival there, and how Philip Amend & Sons would neither accept, nor seriously consider it.

A very good while ago, that was, and Ronan is of the higher executive staff now; but he can repeat, without reference to his musty letter files, just what the senior Amend wrote him upon that trying occasion of his first time out. This is it:

That scheme of yours evidently had its weak spot. But, we can better afford a man who, once in a lifetime, drops $20,000 down the cañon, trying to do something to-day, than to pay an everlasting tribute to *mañana*.

Don't be too liberal with your plea of "guilty." Your first one was all right, but I consider it my turn to render a verdict in your case, and it is this:

"Not guilty—but, don't do it again." Stay with them, young man.

"And," says Ronan, "I stayed."

LIFE'S RAILROAD.

BY WILLIAM GORDON HAMMOND.

Written for "The Railroad Man's Magazine."

DID you ever take time to consider
The lives we are living each day—
Are we helping ourselves, and our neighbors
Along the unballasted way?

Is our road-bed the best we can make it?
Are the ties and the rails all set true?
Are the fish-plates secure and well leveled?
Are we always marked up, "overdue?"

Are our road-crossings all well protected?
Do our signal-lamps ever burn bright?
Are our head-lights trimmed neatly, and burning,
To show us our way through the night?

Is our hand always gripping the throttle?
Does our fireman keep up enough steam?
Is our engine the mogul to pull us
Up the hill where our hopes brightly gleam?

Are there many up-grades we must double,
And down-grades that call for the air,
And stretches quite long and uneven,
That fill us with wo and despair?

Are the agents at all of our stations
Reliable, careful, and true?
When our train blows the whistle for signals,
Are we safe when they let us go through?

Oh, let us take time to consider
The lives we are living each day,
So the special by which we are trav'ling,
Will keep on our own right of way.

And when our last trip is completed,
And we step down all covered with grime,
The operator will send in his OS.,
And say that we got there on time.

Express Thieves, and How to Catch Them.

BY CHARLTON ANDREWS.

HONESTY is not only the best policy; it is the only one that will keep you outside the penitentiary, if you happen to be in the employ of an express company. These companies have so surrounded themselves with safeguards that dishonesty has absolutely no terrors for them, whether it be within the ranks of the company's employees or without.

The thief, be he large or small, employee or working highwayman, may flatter himself that his trail is covered beyond possibility of discovery; that he may settle down to enjoy his ill-gotten gains in peace and security. At the very moment when he dismisses fear from his mind, fate, in the guise of a special officer of the express company, or perhaps the surety company that guaranteed his honesty, may step in and tap him on the shoulder.

The long arm of the law reaches across plains and over mountains and rivers. Distance is no obstacle, and time no consideration. Sooner or later justice overtakes the trembling fugitive, and he passes into the domain of the zebra stripes.

The Express Companies Have Made Secure the Enforcement of the Eighth Commandment Against Dishonest Employees and the Road-Agents Who Once Infested the Mountains.

EVER since express companies were organized, their treasure-boxes have had a peculiar fascination for the dishonest.

Opportunities for stealing money in transit, not only by bandits on the lonely roads, but also by employees, of necessity left unwatched for many hours at a time with large sums in their custody, have been so exceptionally favorable that the express companies' record of losses by theft is not approached in the history of any other business.

But the eternal struggle for the survival of the fittest evolved, as it always does, unusual remedies to meet unusual conditions. The express companies have fought for self-preservation with an energy and skill that have at last rendered them practically immune from depredations by thieves within or without.

So thoroughly is it understood by all men that robbery of an express company carries in its wake a retribution as inevitable as death itself that in these days only those below the average of criminal intelligence will attempt it. Trains and stages are held up nowadays only by boys whose brains have been addled by trashy novels and cigarettes.

The last stage robbery in Idaho was committed two years ago by two boys aged eighteen and nineteen, who had been brought up on a lonely farm, and who had never seen a train until they were taken aboard one by a Wells, Fargo & Co. secret-service agent four days after their foolish exploit, on their way to trial and certain conviction.

Stealing by employees now occurs only in extremely rare cases. The last instance of the kind occurred last August. An agent of the Southern Express Company had read newspaper accounts of the long fight against extradition from Canada conducted by Greene and Gaynor, until he became filled with the idea that he perceived a legal device by which he could avoid extradition for robbery. Accordingly he began to lay plans to test his theory.

He applied for leave of absence, announced that he was going to Canada on a fishing-trip, obtained passes for the journey, and finally started ostentatiously for Montreal, helping himself to twenty-one thousand dollars from an express shipment just before he left. He had no difficulty in getting to Canada—and even less in getting back home again in custody of a detective. It only required seven days to demonstrate that his theory about the weakness of the extradition treaty was all wrong.

Coping with the Highwayman.

The story of the struggle of the express companies to protect their treasure-boxes is fascinating. There were two widely different classes of enemies to meet —those on the outside and those on the inside. The outside enemy, the highwayman, offered the earliest and the most difficult problem because the express companies were young, and therefore poor in resources and experience, and also because the country was new and the machinery of the law was not yet in good running order.

In the days following the discovery of gold in California, Montana, and Colorado, highway robbery was an easy, profitable, and comparatively safe vocation, rather extensively followed by persons with conscientious scruples against work.

When the vengeance of the vigilantes made promiscuous murder and robbery somewhat dangerous, the holding up of stages by masked men became more and more common until Wells, Fargo & Co., who practically monopolized the express business in the Far West, were forced to take the lead in a war of extermination upon highwaymen as the alternative to bankruptcy.

The vicissitudes of this war, which lasted from the earliest days up to 1895, make up one of the most picturesque chapters in the history of the United States. It is also a notable example of how "individual enterprise" may be crushed by corporate aggression.

Some idea of the magnitude of this war upon the highwayman may be gathered from the fact that in the fourteen years from 1870 to 1885 Wells, Fargo & Co. were robbed by highwaymen of four hundred and fifteen thousand three hundred and twelve dollars. Two guards, four drivers, and four passengers were killed in these robberies, and six guards, four drivers, and two passengers were severely wounded.

There were three hundred and thirteen stage robberies, thirty-four attempted stage robberies, four train robberies, four attempted train robberies, and three hundred and forty burglaries of express offices. Also seven horses were killed and thirteen were stolen.

On the other side of the ledger, five highwaymen were killed in the act of robbing the express, eleven were killed while resisting arrest, and seven were lynched for the crime of robbing the stages. The survivors, two hundred and forty in number, were sent to prison for long terms at hard labor. Not one of the highwaymen escaped punishment. Much of their booty was recovered.

Costly Rewards.

To even the score in such conclusive style cost Wells, Fargo & Co., in rewards, percentages on treasure recovered, salaries of guards and detectives, and expenses of arrests and convictions, the tidy sum of $512,414.

The plan of campaign was neither complicated nor mysterious. When a stage was held up, headquarters in San Francisco would be notified as promptly as possible, and an operator from the secret-service department would be sent to the scene of the robbery. Often he had merely to lead a posse into the mountains on a man-hunt which quickly resulted in the killing or capture of the highwaymen. The celerity with which these hunts were conducted is manifest in the court records of California, Nevada, and Arizona. For

example, George Adams robbed the stage from San Luis Obispo to Soledad, California, on the 3d of December, 1879. Twelve days later he was delivered at the California state prison to begin a long sentence for the crime.

Still quicker time was made in the case of James Casey, who found himself in state prison six days after he held up the stage from Grayson to Bantas on the 23d of October, 1884. The usual time, however that elapsed between the hold-up and the journey to the penitentiary ranged from three weeks to three months, depending on the time the courts required to reach the case.

The Life of a Stage Robber.

In a number of instances the highwaymen eluded pursuit long enough to hold up a second stage before their capture. Twelve men were active enough to commit three highway robberies before their inevitable fate overtook them, four held up four stages each, another was killed in the act of holding up his fifth stage, and still another looted six express treasure-boxes before the secret service gathered him in.

Richard Perkins held up a stage from Los Angeles to Bakersfield on the 4th of December, 1875, was promptly captured, and received an eight-year sentence thirty-five days after the crime. Not being satisfied with this experience, he held up another stage within sixty days after completing his sentence. He succeeded in repeating the performance six times more within the ensuing six months. Then Wells, Fargo & Co.'s secret service got him and had him sent up for life.

"Black Bart," the Champion Road-Agent.

The record in highway robbery was set by "Black Bart," whose right name was Charles E. Bolton. Choosing the vicinity of Yreka, California, as his favorite field of operations, he held up Wells, Fargo & Co's stages no fewer than twenty-seven times in the eight years, three months, and seven days that elapsed between his first exploit and his capture. One stage he held up four times at the same spot.

Californians declared that the drivers got so accustomed to being held up at this point that they stopped the stage of their own accord and held up their hands whenever they approached the place. After waiting a few moments, if no one came for the treasure-box, they picked up the lines and drove on.

Black Bart was always well dressed, always polite, and he never fired a shot. Frequently he was so grateful for the contents of the treasure-box that he dropped into poetry, which he signed "P.O.8," and left pinned to a tree or laid upon a rock at the scene of his exploit. The secret-service men were frantic, for they could get no clue to the industrious poet-highwayman.

But the pitcher went to the well once too often. At dusk on the evening of November 3, 1883, as the stage from Sonora to Milton, California, reached the spot where it had been held up on July 26, 1875, the familiar black figure stepped out from behind the same old rock, and, in its accustomed style, drew a bead on Old Bill Moore, the driver, with the usual courteous request to hand down the treasure-box.

Once Too Often.

Now, Old Bill had been held up three times before by the selfsame figure in the black mask, and he felt that his forbearance was being imposed upon.

It made him mad clear through. However, there was nothing to do but obey orders, for the gentlemanly highwayman certainly had the drop on him. He kicked the box to the ground and received a cordial "thank you," coupled with permission to drive on.

Old Bill went on his way until he reached the bottom of a little valley a quarter of a mile beyond, and out of sight of the scene of the robbery. Then he did something which was in direct violation of all the ethics of highway robbery. He stopped, wrapped the lines around the handle of the brakes, crept back up the road until he was within close range of the highwayman, who was still wrestling with the lock on the treasure-box, and cut loose at him with his revolver. With bullets kicking up the dust all around him and singing about his ears, the highwayman departed with such extreme precipitation that he left one of his cuffs behind. On the cuff was a Chinese laundry mark.

The laundry mark being identified, enabled Secret-Service Officers J. B. Hume and J. N. Thacker, of the express company, accompanied by a couple of policemen, a week after the robbery to enter the room of a quiet, well-bred gentleman who lived within a block of Wells, Fargo & Co.'s office in San Francisco with drawn revolvers and request him to hold up his hands.

The quiet gentleman readily admitted that he was Black Bart, the "P.O.8," and that he had committed the twenty-seven robberies.

He admitted other things which made Old Bill Moore madder than he was on the evening of his last hold-up; for he declared that he had often held up stages with an empty gun, and that on his last adventure he had compelled Old Bill to deliver the treasure-box by pointing a fence picket at him. In the gathering dusk the picket looked enough like a rifle to serve the purpose.

Black Bart declared that he had a horror of shedding blood, that he had never hurt any one in his life, and that he would have given up his profitable career of robbery rather than fire a shot at a human being.

Near the Office.

He had lived for years within a block of Wells, Fargo & Co.'s office, had often shipped booty stolen from the express company over its own lines to his home in San Francisco, and was in the habit of taking his meals at a restaurant much frequented by San Francisco detectives. He was well educated, well informed on current topics, a good talker, and even after his arrest exhibited genuine wit.

He had friends of the highest respectability, was cultured in manner, neat in dress, never swore, and never gambled.

All this was of no avail, for he met the same fate that was so relentlessly meted out to the coarser class of highwaymen who were recruited chiefly from laborers, miners, farm-hands, and cowboys.

After the capture of Black Bart, the express companies had comparatively little trouble with highwaymen until the hard times of 1893, when there was a recrudescence of the crime, more particularly in the region south and west of the Missouri River.

In the first six months of 1893 there were twenty-one train robberies, the express-car being the object of attack in each instance. In the latter half of the year this form of robbery was even more frequent. The express companies were in desperation and so were the railroad companies.

Meetings of the heads of both classes of corporations were held to devise means to stop the robberies, the matter was taken up in Congress, and widely discussed in the press.

Guards on express-cars were doubled, and inventors everywhere busied themselves with models of bullet-proof cars which nobody wanted, because bullet-proof cars could withstand dynamite no better than any other kind.

Best Prices for Dead Robbers.

There was only one thing to do, and the express companies did it. They instructed their secret-service departments to bring in every man who took part in an express robbery, regardless of cost, and to do it with a swiftness which would make the industry of express robbing unpopular.

The manner in which the express companies preferred to have their train robbers brought in was indicated by the standing offer of the American Express Company of five hundred dollars a head for dead express robbers and only one hundred dollars a head for live ones. This offer applied only to the common run of train robbers. In aggravated cases the reward was greatly increased.

When the Dalton gang, which in less than two years robbed the express companies of three hundred thousand dollars and killed four men in doing it, was wiped out at Coffeyville, Kansas, on the 5th of October, 1892, the express companies sent six thousand dollars by telegraph within twenty-four hours after the shooting to the men who did it. This was supplemented by an additional ten thousand dollars by mail a few days later.

C. S. Cox, the Wells, Fargo & Co. agent who fired the first shot and brought down his man, was presented with a fine gold watch and chain with an inscription commemorating his deed, and Jim Spears, the liveryman who killed three of the gang

as fast as he could work the lever of his repeating rifle, was given a gold medal in addition to his share of the money reward.

Quite Remunerative.

In short, the hunting of express robbers was made so remunerative that very soon there were no robbers left to hunt; and for the last dozen years the express companies have enjoyed an almost complete immunity from stage and train robberies that has left them free to perfect a system of protection from dishonest employees.

The prevention of theft by employees presents a totally different problem from that afforded by highwaymen, and one distinctly easier of solution. The salaried employee is higher up in the social scale than the highwayman. Therefore when he goes wrong he is easier to trace, and family ties and old associations exert a far more powerful influence in bringing him back sooner or later to the scene of his crime, where he may be apprehended at a minimum of trouble and expense.

The system of checking used in the express business is so elaborate that the disappearance of a valuable package is at once detected. To begin with, when a money package comes into an express office, it is receipted for and then sealed by two clerks. Every man into whose custody the package is given must sign a receipt for it.

Down to a Minimum.

If it goes from one principal point to another, it is placed in a safe with a combination lock. The messenger who has charge of the safe on the train never knows the combination, and therefore could not open it without blowing it open. The only money packages he handles are those destined to local points on his run, so even if he were inclined to be dishonest his opportunities are circumscribed.

The chances given to a dishonest man to steal are reduced to a minimum by a civil-service system by which all men in positions of trust are tried out pretty thoroughly in subordinate places before they are permitted to handle money.

After a man has been advanced to a place in which he may be tempted to be dishonest he is safeguarded in a way which has proved wondrously effective. Every express-messenger must furnish a bond from the American Surety Company of two thousand five hundred dollars to five thousand dollars, according to the importance of his run, and every agent is also placed under bonds ranging from five hundred dollars to five thousand dollars. This is not done because the express company expects the amount of the bond to recoup them in case of loss, but because the American Surety Company has a detective staff which is not surpassed in the world.

Capture Is Certain.

If an employee steals anything from an express company his capture and punishment are as certain as anything human can be. If the sum stolen is less than the amount of his bond, the surety company is notified, and the express company gives itself no further concern in the matter. If the amount of the theft exceeds the amount of the bond, the express company detectives cooperate with the operators of the surety company in running down the culprit.

Some curious notions are extant regarding what takes place when an express company is robbed. The popular idea is that if a messenger or other employee of an express company were to decamp with a large sum there would be agitated conferences of officials, frantic messages, and wild hurryings to and fro of an army of detectives who would sacrifice appetites and sleep in running down all sorts of impossible clues.

The culprit always shares this belief, and acts upon it. He gets as far as possible from the scene of his crime in the shortest practicable time, and for several months goes into hiding that is often very good.

Impossible to Get Away.

What really happens in a case of robbery is as far as possible from the popular idea. If an express-messenger *en route* from New York to Chicago were to disappear from his train with fifty thousand dollars to-morrow the trainmen would notify his division superintendent as soon as he were missed. When the absent mes-

senger's run was checked up at Chicago the exact amount of his shortage would be known, and reported by wire with such other facts as were available to the general manager in New York.

The general manager would order the message to be sent to the surety company and dismiss the matter from its mind.

The president of the surety company would give the message a casual glance, send it up to the secret-service department, and apparently forget all about it. Such an event would be considered merely a routine incident to be ground through the proper department, and that is all.

When the matter was referred to the secret-service department, a description of the man wanted would be sent to each of the twenty branch offices scattered at advantageous points throughout the country, with instructions to take him in if found. If on investigation no really satisfactory clue were discovered, nothing further would be done. All the operators in the detective department would tuck the description of the man wanted and his crime away in a convenient corner of their brains and go about their business. Executive officers of corporations are seldom given to spending money unless they have a pretty definite idea that something is to be gained by the expenditure; and certainly the sending of detectives on wild-goose chases is an unpromising investment.

Gets Within Gunshot.

Nobody does any worrying but the fugitive. Neither the express company nor the surety company is in any hurry to get the culprit back. In the first place, haste is unnecessary; and in the second place, it is undesirable. The moral effect of an arrest four years after a robbery is considered much greater than if made four weeks afterward.

But perhaps the consideraton of greatest weight is that in ninety-nine cases out of a hundred the fugitive will practically arrest himself if given time enough. That is, he will either come back where he is certain to be seen by the operators, or else he will betray his hiding-place by some clue so unmistakable that his arrest requires no effort beyond the journey to get him.

The conduct of the fugitive from justice is singularly like that of a rabbit when flushed by the hunter. At first he scurries wildly away, then circles back toward his starting-point until he is within easy gunshot.

A few examples may serve to show, perhaps, that the work of a detective is more like the vigil of a cat for a mouse than like the *Sherlock Holmes* of fiction, who racks his brains over a partly burned match to determine whether it was struck by a right-handed or a left-handed man and finally reaches the sagacious conclusion that it was used by some one who wanted a light.

Without an Effort.

F. P. Beers, Wells, Fargo & Co.'s agent at Campbell Hall, New York, six years ago took a shipment of four hundred dollars and disappeared. The case was duly reported and promptly forgotten by every one but the operators in the secret-service department of the surety company. Beers had never had a photograph taken, so the operators had only his description to work on. Eight months after Beers disappeared, W. L. Johnson, one of the surety company's operators, noticed a man on Broadway who had evidently just arrived from the country, judging by the way he was staring about him. A closer look revealed a face and figure that tallied with the missing Beers. Johnson stepped up behind the stranger, struck him a resounding slap between the shoulders, and exclaimed:

"Why, hallo, Beers! Why did you take that four hundred dollars and leave your wife at Campbell Hall?"

The man was so startled by the slap and the question that before he could regain his self-possession he blurted out:

"I had to."

Then he realized that he had betrayed himself, and followed Johnson shamefacedly enough to meet his fate.

George Brooks, alias Hamilton McAuley, formerly a telegraph-operator, was Adams Express agent at West Hickory, Pennsylvania, in 1888. His knowledge of telegraphy and the express business enabled him to evolve the most ingenious scheme in the history of the company for robbing the safe of one of the messengers.

Taking a telegraph-instrument, he went to a lonely spot, a mile outside of Templeton, Pennsylvania, sent a message purporting to be from George Bingham, the division superintendent of the express company, ordering Thomas Bingham, the messenger he knew would be on the run from Oil City to Pittsburgh that day, to turn his run over to Hamilton McAuley at Templeton and return to Parker to await orders. Then he cut the wires so the message could not be verified. Then McAuley went to the station and waited for Bingham's train.

As everything seemed regular enough, Bingham turned his run over to McAuley in accordance with the fake telegram. McAuley checked Bingham out in proper style and went on to Pittsburgh. There he checked out, and while on the way from the depot to the express office took a package containing ten thousand dollars and disappeared.

Finally Caught.

He succeeded in getting to Brazil. After the lapse of four years he concluded that, as he had never seen any indications of pursuit, he might safely venture back home. He was getting homesick, and, besides, he was nearly out of money. He returned to Oil City under the name of Clyde P. Hamilton, and was arrested on the 1st of May, 1892, within twenty-four hours after his arrival, tried, convicted, and sentenced to four years.

He had been recognized by an operator of the express company when he landed in New York, followed to Oil City to save delay in extradition, and arrested.

George T. Bagley, a United States Express messenger, running west out of Chicago on the Rock Island on the 18th of November, 1892, took a shipment of one hundred thousand dollars, and left his car at Davenport, Iowa. The trainmen immediately notified the division superintendent of the express company. Just eight hours after his crime had been committed, Bagley stepped off a train in Chicago into the arms of an express company detective who was waiting for him. The detective had rightly concluded that Bagley would hurry back to Chicago as affording the best place for concealment pending a chance to leave the country. Every cent of his booty was recovered, and twenty-four days later he was sentenced to three years in the penitentiary.

To the Antipodes.

Paul Hume, a Wells, Fargo & Co. messenger running between Sacramento and Redding, California, absconded with three thousand dollars on the 7th of March, 1893. He managed to get on board a vessel bound for Honolulu, and after wandering aimlessly about from port to port in the Pacific, he reached Brisbane, Australia, in September of the same year. Here he imagined himself safe. But in less than a month a man stepped up to him in the street and said:

"Well, Hume, I guess it's about time for you to go home and take your medicine."

T. C. Valentine, an express agent at Elgin, Illinois, absconded eight years ago with a shipment of ten thousand dollars. He succeeded in getting to Bluefields, where, as he knew Nicaragua had no extradition treaty with the United States, he thought he would be safe.

In six weeks an operator for the American Surety Company who had followed the trail he had so plainly left, found him on a coffee-plantation in the interior. The operator talked the matter over with Valentine, saying that while he could not be taken back against his will, the best thing for him to do was to return, take his punishment, and begin life anew.

Getting Him Back.

The operator pointed out the obvious facts that the country was extremely unhealthful, and that even if he escaped the fever he was among strangers who could not speak his language, that his money would soon be gone, and that he would have no means of getting more, that he was far away from friends, and that he had condemned himself to a worse fate than that which awaited him at home.

Valentine agreed to go back with the operator. They returned to the coast, and while waiting for a steamer to take them home Valentine was stricken with yellow fever. No one would go near him but the operator who had run him down. He nursed Valentine tenderly till he died.

37-YEAR-OLD PASS STILL GOOD.

The Remarkable History of an Old-Time "Free Ticket" Issued by the Texas and Pacific Railway Company, and the Men Who Were Connected with It.

BY C. A. BEEHN.

IN Marshall, Texas, is an old-time railroad pass, which may prove interesting on account of its age and because the men connected with it are now prominent in business in different parts of the United States.

This old pass is the property of J. E. Powell, familiarly called "Al" Powell, who is conductor on the Louisiana division of the Texas and Pacific Railroad. Mr. Powell has had it in his possession for twenty years. He values it highly. Through his kindness, a facsimile is reproduced here.

When Mr. Powell first saw the pass, he expressed a wish to own it. It was then several years old. About a year later, when the owner was traveling on the train upon which Mr. Powell was conductor, he said: "Al, you want this old pass very badly, don't you?" and when Mr. Powell expressed a wish for it, it was given to him as a souvenir. It is in good condition yet.

The pass was printed in Marshall, in the *Iron Age* office, about 1871 or 1872, by W. B. Clark, who then ran the print-shop on the public square. The Texas and Pacific Railroad issued it August 23, 1873, to Floyd Shock, who at that time represented Van Beek, Benard & Tinsley, printers, of St. Louis, and reads "From Marshall to Shreveport, Account of the Transportation Department. Good one way only. Not good unless used within ——— days from date. And not transferable."

It is signed by John F. Dickson, general superintendent, and countersigned by W. H. Newman, G. F. and P. A. Its number is 514.

Strange to say that, though this old pass is nearly thirty-seven years old, all of the men whose names appear on it are still living and are prominent business men in various parts of the country.

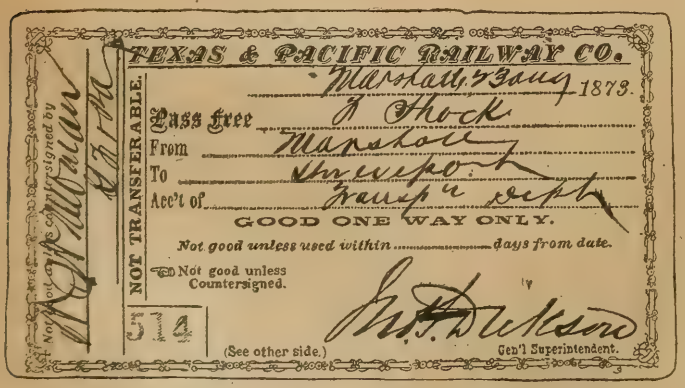
Floyd Shock, to whom the pass was issued, was then a traveling man, and is now in the Central National Bank, St. Louis, Missouri.

John F. Dickson, who signed the pass as general superintendent of the Texas and Pacific Railroad, was the founder of the Marshall Car Wheel & Foundry Company, and is now the owner of the Dickson foundry at Houston, Texas.

W. H. Newman, who countersigned the pass as general freight and passenger agent of the Texas and Pacific Railroad, is the same Bill Newman widely known in the railroad world, who, for many years past, was president of the New York Central lines, and is now a director in many of the largest railroads in the United States.

Mr. Newman, who began his railroad career in Marshall, has gone up as high as any one could in his profession, and is recognized as one of the greatest railroad men in the country, still makes occasional trips to Marshall.

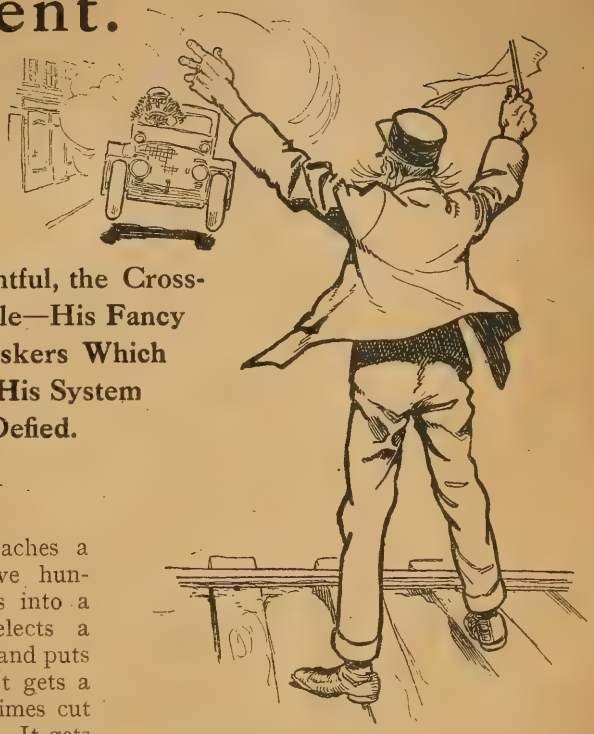
The pass was never used, and is still good, because it bears no time limit. It is stated that the reason it was not used was because shortly after it was issued yellow fever broke out in the neighborhood of Marshall.



ISSUED IN 1873,—AND STILL GOOD

Observations of a Country Station-Agent.

BY J. E. SMITH.



No. 23.—Hiram Benson Lightful, the Crossing-Watchman of Pippenville—His Fancy Job, His Wonderful Whiskers Which Won Him a Wife, and His System Which He Alone Defied.

AS soon as a village reaches a population of five hundred, it organizes into a town or city, elects a board of trustees, and puts on a few airs. It gets a town marshal, with a star sometimes cut from the bottom of a tomato can. It gets a debt that will run into the next generation, and then proceeds to enact a few ordinances for the regulation of its internal affairs.

Usually, the curfew ordinance comes first, then a pig ordinance, then a pedler ordinance, then an ordinance compelling the railroad to place a flagman at Main Street where the railroad crosses.

There is nothing so satisfying to the board of trustees as the flagman ordinance. It gives the town the same metropolitan aspect that the bonded indebtedness does. It advertises.

When the passenger-train pulls over, and the passengers see a flagman at the crossing, and get a fleeting glimpse of the Odd Fellows' Block up the street on the corner, they cast up the place as of some importance.

This is gratifying to the local pride, and doesn't cost the town a cent.

A railroad does not always enthuse over the crossing-watchman proposition. It will now and then succeed in compromising the matter with the town council by installing an electric signal at the crossing.

This is a mechanical arrangement that gives warning of the approach of a train by monotonously tapping a gong, thereby notifying all concerned to "look out."

The gong outfit is not always satisfactory to the town trustees, as it spends no money and adds nothing to the population. The human crossing-watchman counts one, and his pay goes to the merchants.

Crossing-watchmen divide into two general groups.

One is provided with a "dog-house," or "shanty." His working equipment consists of a lantern and a white flag. When a train approaches, he sallies forth to the middle of the street and personally stops the travel outfits that are about to cross the track until after the train passes.

The other kind is more aristocratic.

He lives in an elevated house, and, by a simple device, raises and lowers an arm or gate across the street without the necessity of going outside. He is the city watchman.

In all the small town and country crossings only the first-named are employed.

Quite naturally, then, when the faithful chronicler of the thoughts and deeds of railroaders seeks to write of a job with an active-personality connection, he tags the watchman who marches out into the middle of the street, with motion, gesture, and loud command, who seizes the reins of high-stepping horses, who lays heroic hands on some aged venturer, and who violently yanks some reckless youth from threatened danger.

That's a real crossing-watchman.

The man who, from an elevated loft, taps his bell a few times, then merely raises and lowers an arm over the street, has no personal contact with the passing throng.

"That kind of a job's a snap," said Hiram Benson Lightful, when I mentioned the city crossing-watchman. "They don't have to stand right out in the street in all kinds of weather, and take a hand in it, and git cussed and bumped around and run over like we do. Any old woman can do what they do," he added contemptuously.

I have wanted to write of Hiram and Hiram's job for some time.

If all the crossing-watchmen in the land were mustered into one battalion, it would far outnumber the old Continental army. So they deserve a passing line in railroad literature.

Hiram may be pardoned for speaking disrespectfully of the city watchman. Perhaps the city watchman could put one over on Hiram if he were asked. We might start something—say, the outside *vs.* the inside crossing-watchman; but far be it.

Leave it to statesmen, clergymen, doctors, and explorers to view one another with distrust, ridicule, and contempt. If Hiram has a little of the same for his coworkers, it is only a human quality. No discredit to Hiram for it.

Hiram is watchman at the Main Street crossing at Pippenville every day from six to six.

He carries a white flag in one hand, with which to wave the street traffic to a halt when a train approaches.

His whiskers are of Time's kindly frost, discolored by tobacco-juice. A man with amber-stained whiskers will tell you all—any time—anywhere—and glad of the opportunity.

I sat down in Hiram's "shanty." I do not know why such opprobrious names are given for a watchman's house as "shanty" and "dog-house."

As a rule, they are nice, neat, tidy little houses, with windows all around, a good chair, and one of those heavy little iron stoves that radiates warmth to every nook. They are observatories, and they deserve a more classic and dignified name.

The walls were decorated with dazzling pictures of beauties, near beauties, and semibeauties lifted from the wide selection of pictorial advertising. Three calendars stood out in bold reminder of the passing days. A crossing-watchman's house always contains calendars. No one knows why. The watchman is on the job every day of the year, and why he should have occasion to mark the days or the months, since they are all exactly alike to him, no one knows.

But the beauties! They were eying me with coquettish squints or open-eyed innocence from every angle.

"Where did you find this collection of angel-faces, Hiram?" I asked.

"Whenever I run acrost a purty one, I git it and tack it up inside," he replied. "Them is some of the finest that ever peeped out. All us crossin'-watchmens is old uns—and broken down. Maybe you never tho't of that. Everything else gits old and stale to an old man except—except the face of a purty woman. When I git so I don't care to look on them any longer, I reckon there'll be some doin's for the undertaker."

"How long have you been with the company, Hiram?" I asked.

"Let's see," said he. "What year was it old Horace Greeley run for President? In 1872, wasn't it? I went to work on the section the year before that; makes thirty-nine years, doesn't it? Guess that's it. Thirty-nine years."

"Didn't they ever offer you anything better, Hiram? Didn't they ever want to boost you?"

"Me! Why, ding my hide! I didn't give 'em a chanct. Whenever they crowded me eny, I'd slow up. And I kept a gittin' slower an' slower until they put me to watchin' this crossing."

"I've always heard," I said mildly, "that the engineer is the man who is the 'High Ike' on the life-saving stunt, and that next to him is the train-despatcher, and next the telegraph operator, then the

"WE DON'T GIT NO CREDIT FOR SAVIN' HUMAN LIFE."

Hiram bit off a chunk of Dog-Leg twist. It inspired a new thought.

"Guess this is about where I belong. I'll tell you, more of 'em don't go up eny; they're too durned lazy and careless, same as me. Here comes the switch engine. Wait till I stop that mule team.

"Watchin' a crossin' is one of the most responsible jobs on a railroad," said Hiram, when the engine had gone by.

"Is it?" I replied. "I never thought of it in that way."

"Course you never hev. Nobody does. If it wasn't for watch'n' 'em all the time, they'd be a lot of people killed on these crossings. We don't git no credit for savin' human life, but there's thousands of people who ort to thank us to-day that they air still on earth."

section foreman, so that puts you, Hiram, along about number five on the list."

"Section foreman! Telegraph operators!" exclaimed Hiram. "Huh! How do they git in on it?" Hiram spat contemptuously into the corner of the shanty. "I ain't never seen eny section foreman or telegraph operators wearing eny of them Carnegie-breastplates."

"There isn't any such thing as the International Union or the Amalgamated Association of Crossing-Watchmen, is there, Hiram?"

"They ain't no order of us," replied Hiram, "'cause they's no way we can git together. If we was organized, and c'u'd all go out, we'd tie up the road tighter'n blixin."

"I can't figure that out," I said.

"Can't, eh? Why, it's 'cause the law'd git after them right away. Crossing-watchmen is all fixed by statutes. They've got to be, and every day, too. If they's eny miss, the railroads 'ul git soaked! You bet! We'd have 'em, all right. The law don't make eny exceptions on account of strikes. The railroads 'ud be liable every day until we returned to work. Ain't eny others got that kind of a holt on 'em."

"But, Hiram," I protested, "they wouldn't be over an hour and a half finding some one to take your place. There are hundreds of old men everywhere who would jump at the chance of a life tenancy in this neat little bunga' w, and at the easy work you have to do."

HE COMBED HIS WHISKERS INTO A FLOWING LUXURIANCE.

"That's what *you* say!" exclaimed Hiram with warmth, and bearing heavy on the "you." "They can't git 'em, I tell you. Every time they's a vacant crossing it takes a week or ten days to find some one that'll take it. They can't git 'em! Ain't easy work, either. You're like everybody else that works on a railroad. All the other fellows got a nice, easy job. I've heard 'em all talk. Never heard one yet but what thinks he's got the worst of it, and everybody else's got it better 'an him.

"When eny one tells me watchin' a street-crossing is a nice easy job, I ask 'em did you ever do any of it? They say no, they haven't, but they seen it done. Then I tell 'em it's always easy seein' things done, and that they got the wrong answer, and to guess again. No, sir! They couldn't fill our places.

"You see, if we'd go on a strike, I'd picket. I'd march up and down and around the crossin' every day while the strike was on, a picketin'! Do you think enybody would want to take this job and scab while I was doin' picket duty right ag'in' him? An' then the company 'ud git soaked every day they wasn't a watchman on duty. Before a week, they'd be dinged glad to arbitrate, an' we'd all git a raise."

Hiram chuckled as if the whole campaign had been undertaken and triumphantly pulled off.

"Ain't everybody can watch a crossing, and do it as it ort to be done," Hiram continued. "I've been right here six years, and I got a system. They wasn't eny system when I come here. It was two or three years before I got the people educated to my system.

"You can't watch a crossing by just posin'. You can't stand out there like one of them mile-posts. You got to move about, and see what's comin', and calculate velocities, and then motion 'em over or motion 'em to stop.

"My idea was to teach 'em all to depend on me—to watch *me*. Not to rubber up and down the tracks theirselves, but to keep their eyes glued on me, and I give 'em the sign what to do.

"I know about all the teams, and about everybody that drives acrost. And they all know me. They've learnt my system, and they watch for me to motion 'em. They all depend on me.

"At first they didn't pay eny attention to me, but when I'd go up and grab the horses by the bridle, they begin to take notice, and soon they was understandin' that here's a man that knows his business."

The switch-engine returned with a string of cars, and Hiram sauntered out

with his white flag to stand guard until it passed.

He returned to the shanty with a sprightly step. He took off his old cap and substituted a respectable derby. Then he stood before an unframed fragment of a mirror tacked against the wall and combed his whiskers into a flowing elegance.

Then he strode briskly forth to the middle of the street again, and assumed, as I thought, a rather heroic pose.

There was no train in sight, but I heard the rattle of an approaching vehicle.

It came to a stop at a safe distance from the track.

The driver was a red-cheeked woman of fifty-five or sixty, and driving a cart loaded with the products of a truck-patch.

Hiram craned his neck in both directions up and down the track; then, stepping nimbly aside, called out: "All right, Mrs. Doud; come acrost!"

"Thank you, Hiram," said the woman, smiling expansively.

Hiram lifted his stiff hat and bowed a Chesterfieldian acknowledgment.

"That was very neatly done, Hiram," said I, when he returned to the shanty. "Still, I don't see why you should have been so overcautious."

"That's Widow Doud," said Hiram, with a sort of sheepish apology. "She kind o' depends on me. She don't like to go over unless I tell her it's all right. It's part of the system I've built up of crossin'-watchin'."

Hiram took off his stiff hat and hung it up on the hook very carefully. Then he put on his old cap, and eyed himself in the glass critically.

"You wouldn't take me to be sixty-five, would you?" he asked rather abruptly.

"Why, Hiram," I replied warmly, "you don't look a day over fifty. This kind of a life agrees with you. You are good for an even hundred on this job."

"Maybe so," said Hiram; "but sometimes I git an idee I'll quit it. I git to thinkin'— That Doud woman ain't bad-lookin', is she?"

This sudden and seemingly irrelevant turn of the conversation took me by surprise.

"Why, no, Hiram," I acknowledged. "She's a little broad across, but she has a pleasant face."

"She's a widow, and she owns a thirty-acre truck-patch down on the river bottom. They tell me she makes three or four hundred dollars a year on it, and

"CHASED ME ROUND THAT VEGETABLE WAGON THREE TIMES."

does all the work herself. That's a nice business—truck-patchin', when you reduce it to a system."

Hiram parted his whiskers in the middle, and gave them an artistic brush on both sides. Then he went on:

"I wasn't on this job more'n a week but who should drive up but Mrs. Doud. They hadn't been eny system in runnin' this crossin' before then, so she didn't pay eny attention to me, even when I made a motion for her to stop.

"The local was just about to back out from the freight-house track, but she never stopped; so I just steps up in front of her old gray horse, grabbed the reins, and brought it to a standstill all of a suddent.

"The woman had just gotten up out of her seat, and was kind o' leanin' over to see for herself if eny train was comin'. When I yanked the horse, she just went on out over the dashboard and lit on her head.

"When she got up, she was madder then thunder. She chased me around that vegetable wagon three times before she got out of breath. I tried to reason. I said: 'Madam, they's got to be system to this crossin' business!' Then she just hauled off and smashed me right in the eye with one of them ripe tomatoes of her'n. That riled me somethin' fierce, and we had a heated argument right there. A big crowd gathered round to hear it.

"More'n a year that woman wouldn't look at me. Finally, when she got to understandin' the system I had in runnin' this business, she come off her perch, and we've been good friends ever since."

I assured Hiram that in every department of railroading it is a hard struggle to make people understand and appreciate the things we do, and the provisions we make for their safety; but that persistence and good nature would, in the end, win, and that, when once educated, they are thankful to us for our efforts in their behalf.

"That's so!" exclaimed Hiram with enthusiasm. "She is! She's told me so! She's told me that maybe I saved her life that time."

"How long have you been a widower, Hiram?" I asked by way of injecting a little human sympathy into the conversation.

"Ten years the tenth of last March. This crossin' job ain't so bad for a single man. I've salted away over three hundred dollars since I've been here. Groceries air all-fired high now, ain't they? Do you think two could live about as cheap as one can board?"

Hiram didn't wait for an answer to that one, but made haste to add:

"What you're speakin' about is right. It's hard work to make people come to your way of doin' things. They's a fellow that drives a mule team for the rubber works that don't want to pay eny attention to me. Some day he'll git his all right!

"Then they's a young fellow comes along here every once in a while in a big red automobile. He's a smart Aleck. If No. 21 would just toss him over into the next county some day, they wouldn't be eny regrets from yours truly.

"They's some drivers that ort to git it. They don't care themselves, and they ort to be smashed up once in a while, and that would help us to keep others from bein' too risky."

No. 76 whistled for the station, and I walked out with Hiram to the middle of the street.

A quarter of a mile away a red automobile was headed toward us and coming at a merry clip.

"That's him!" exclaimed Hiram excitedly. "That's that young upstart and his red devil I was tellin' you about. I'll git him stopped this time all right, 'cause 76 is comin'. He's got to stop. While he's waitin' for 76 to pull over, I'll let him know they's got to be some system to this hereafter."

It was a question which would arrive first, 76 or the auto. Both were racing steadily forward.

It did not matter to Hiram how the race appeared. He had but one idea, and that was to stop the auto and upbraid the young fellow good and plenty for past recklessness.

Hiram went through furious gyrations with arms and flag.

I noticed the young fellow bend slightly forward and put on a little more power.

By this time Hiram was whirling around like an air-motor in a hurricane, and yelling warnings at the top of his voice.

There was a sort of swish and a zip and a red streak, and Hiram picked himself up twenty feet away, whither he had spun like a monorail gyroscope.

Hiram shook his fist at the vanishing destroyer in impotent rage.

"Hang him! I'll git even with him! I'll steer him in front of the limited! I'll lead him to it! I will—so help me!"

"No use, Hiram," said I, in mollifying tones. "That fellow will never stop to give you a chance. He's one your system can't touch."

There are moments of pride and importance in Hiram's duties.

When a funeral cortège approaches, he takes down his red flag and holds up the railroad traffic until the last carryall of the long line has moved solemnly across the track.

He poses a little in this act. He stations himself immovably in front of the waiting engine, and they who pass slowly by — mourners, near mourners, and the friendly curious—know that he would be prostrated and mangled before he would allow the engine to break the impressive rhythm of the procession.

HIRAM HAD DEFIED THE SYSTEM.

It pleases Hiram that the engineer, conductor, and other members of a train-crew recognize him as they pass and give him the railroad salutation—a wave of the hand.

He doesn't know any of their names, and he doesn't exchange a dozen words a month, but they know him, and he knows them.

"That's one thing I'd hate about quittin' this job," he said to me. "I got so many clost friends on the road. I'd hate to leave 'em."

He has a bit of lawn surrounding

his shanty, which he has given a gardener's attention for many years, and which is trim and clean as a velvet carpet.

Mrs. Doud, surveying it from the comfortable vantage of her vegetable-cart, complimented him on its neatness.

"These surroundin's make a man kind o' sentimental about quittin' a job that he's took a pride in so many years," said Hiram. "But I'm gittin' to an age where I got to begin to figure on something ahead. I've got to look out for Hiram a little, sentiment or no sentiment."

He paused reflectively, then added:

"Meat's awful high. I was readin' in a paper the Pullman conductor throwed off to me the other day that the Secretary of the Treasury or Interior, or Commissioner of Patents or Pensions, or some one high up, says it ain't goin' to git eny cheaper for a good many years.

"Then, thinks I to myself, thinks I, if meat keeps so high, people will haft to eat vegetables. Now's the time to go into the vegetable business. Future looks good for truck-patchin'."

"Go to it, Hiram," I said encouragingly. "Opportunity knocks but once on the dog-house door. He's been a long time finding you, but at last he's tapped. Arise and follow!"

It was not a great while after that there was a new watchman at the Main Street crossing, and Widow Doud's vegetable cart, with a new driver, approached from down the street.

No. 21 whistled for the crossing.

The new watchman got out into the middle of the street and waved his white flag once or twice in a listless sort of way.

The new driver of the vegetable cart gave his horse a cut, and came spurting forward, entirely ignoring the watchman.

The watchman grasped at the horse's bridle, but the driver, with an explosive command, laid on the whip so vigorously that the horse broke away and lunged forward.

The reader may recall what our reminiscent grandmothers tell about the shooting stars of 1833. This time the pyrotechnics consisted wholly of turnips and cabbage.

Hiram wasn't hurt much. He picked himself up before the bystanders got to him. He shook his fist violently at the new watchman.

"Look what you done! Don't you think I know this crossin'? If you hadn't laid your hands on the horse, you dinged muttonhead, I'd a got acrost and 21 wouldn't a hit me! I'll report you, I will! You'll git yours!"

Hiram had defied the system!

Isn't that human?

STARTLING RAILROAD STATISTICS.

THE most marvelous array of statistics presented for some time past was that offered by the Bureau of Railway News and Statistics. These figures are so stupendous that one can scarcely comprehend their real meaning as they stand in orderly rows, divided into groups of three by portly commas. Figures are mounting up so rapidly nowadays that the statisticians have to keep on hand an ample supply of ciphers.

In ten years, nearly seven billion people were carried by the railroads of the United States, and in a single year, 1908, one and one-half billion tons of freight were transported over the shining rails from one part of the country to another.

The weight of the individual locomotives has increased 115 per cent, and the number 75 per cent, there being now almost 57,000 puffing over the United States. The increase in the capacity of freight-cars has been approximately 120 per cent, making their present carrying capacity more than 71,000,000 tons.

Perhaps the statistics giving the number of railroad employees are the most impressive; nearly a million and a half people, an increase of 67 per cent, are now on the payrolls of the United States railroads, drawing a compensation of a billion dollars a year, an increase of 110 per cent over ten years ago.

Theories are all right, but blue-prints build no bridges.—Growls of the Construction Foreman.

A HEART OF THE NORTH.

BY GEORGE VAN SCHAICK.

Pierre Meets Anne Marie, and Learns Why There Is a Great Tragedy in Her Life.

CHAPTER I.

The Upset Canoe.

HE roar of great falls began to boom through the mist of the morning, and became louder with every stroke that sent the birch canoe lustily up-stream. Great boulders lined both shores, and beyond them, in hazy faintness, rose the serrated line of the forest-trees.

To Pierre Ferguson there was music in the drip of the paddle, in the tremulous sigh of aspens, in the song of the dark water as it rushed by him, deep and dark, bearing great ragged flecks of foam.

The crashing of the cataract came nearer, and the water whitened with the spume that was whirled in great eddies. Then the man saw the place where the portage began. It was a sandy spot, nearly at the foot of the falls, whose heavy spray blew over it.

Near it was an old camping-ground, surrounded by rotting tent-pegs and brown with the dead successive layers of rusty fir-boughs that had formed the bedding of previous voyagers. Charred ends of logs marked the site of the fires that had been lighted there.

A stroke of the paddle brought the canoe along the side of the tiny beach, and Pierre stepped ashore, preceded by his dog, a rough Irish terrier that began to search at once for a possible hare or squirrel, barking in delirious joy at the number of lovely smells he alone knew how to enjoy.

In the meanwhile, his master began to empty the canoe of its contents. There were several large water-proof bags and a smaller one, holding an aluminum cooking outfit. The fishing-rods, which were lashed to the side of the canoe, were allowed to remain there; but the gun, in its canvas case, was carefully placed on the bags.

Two paddles were crossed amidship of the canoe, and, bending over, Pierre brought it up until it rested upon his knees; and then, with a slight effort, lifted it upon his shoulders. A small tump-line fastened to the cross-bars was fitted upon his head, well forward, partly on the forehead.

With the left hand he steadied the canoe and with the right picked up the gun, and, whistling to his dog, began the journey over the faint trail of the portage.

It first led him up a sharp hill, covered with stones and of uncertain footing; and then down an incline into a swampy bit where his high moccasins sank deep into the soft black ooze. Then once more into the woodland, where the path twisted around great mossy rocks and fallen trees.

To the right he could hear the rapids, hidden by the dense growth of birches and alders on the bank. The dog was busily exploring nooks along the path, which soon came out upon some burned land, where the solemn ghosts of great trees projected, twisted as if in pain, their gnarled black limbs, fantastically like strange, living forms, apparently sorrowing in the bleak solitude over the graveyard of the once hale forest.

But the *brulé* was soon passed, the tall green growth again reached, and a glimpse of dark, placid water showed ahead.

Suddenly, from up the stream, there was the loud crash of a gun, reverberating among the surrounding hills, and, after a brief interval, a loud, shrill cry of distress.

It was a woman's voice, and Pierre, throwing the canoe into the bushes along the path, ran on, still carrying his gun, leaping over fallen mossy trunks, sinking in black ooze, tearing through the dripping bushes that met over the portage.

He dashed out of the woods upon a sandy point jutting out into the river, perhaps a hundred yards above where the water began to boil, and saw that a woman was being carried down the stream toward the boulder-strewn white torrent in its rush toward the falls. Once or twice her head sank under the swift water as she lifted up her arms.

One glance farther up, before he leaped in the river, showed him a great bull moose that was struggling amid the wreckage of a canoe, with which the mighty beast seemed to be inextricably mixed up.

Pierre was seized at once by the strong current. With all the strength he had he swam toward the passing woman; his fierce strokes soon brought him to her, and her long black hair met his grasp.

Then came the fight for two lives, and there was a lust in it, a fierce development of a passion of struggle, such as seizes strong men in the hour of strife.

Inch by inch he neared the shore, foot by foot the white water drew him toward the rapids. It tore at him and clung to him, and pulled savagely and struggled for the possession of his burden, as though maddened with a longing for the blood of men.

He sank several times and emerged, gasping, yet always battling fiercely. When one of his knees struck the bottom his breath had become a hoarse gurgling, and his strength was ebbing away. Farther on in the more shallow water he managed to regain his feet, and the weight of the woman, whom he had taken in one of his arms, helped to steady him, while the water boiled around his legs as if seeking to tear him away.

Thus he made his way to the shore, now bearing the burden easily in the exultation of a fight that was won.

When he reached the sand-bar he deposited the half-drowned creature on the sand, and it was only then that he perceived another human form lying prostrate upon the rocks, higher up the river and partly submerged.

The moose was still there, struggling, and he rushed to the place where he had thrown down his gun, tore off the cover, and at the crashing of the smokeless cartridge the great animal dropped heavily among the torn birch strips and broken cedar ribs of the canoe.

Running up, he found an old Indian, who had partly dragged himself out of the water upon the rocks. As he pulled him out he noticed that one of the legs was twisted in an unnatural position, and the old fellow groaned with pain.

As he seemed to be breathing naturally, Pierre placed him with the head and shoulders resting upon a fallen tree-trunk and ran back to the woman.

She had partly raised herself, lying upon one hip, with her hands resting upon the sand before her, breathing with difficulty. She looked up as Pierre bent over her, and spat a mouthful of blood before speaking.

"Is he dead?" she asked in her familiar French.

In French he reassured her, telling her the man was living, but adding that he looked very ill.

As he knelt by her, she stared at him.

"The Manitou-ilno told of the white man," she said, seeming to speak to herself, "and there is the little yellow *addom*," as she saw the terrier, who, in great excitement, was attempting to caress his master.

She made an effort to get on her feet.

"Let me carry you," he said.

She shook her head and arose, painfully and slowly, with his help. Holding her hand to her right side and biting her lip, with Pierre's arm under hers, she began to walk toward the old man in silence, her short, gasping breathing painful to hear. They reached the fallen tree, and she attempted to kneel by the prostrate form; but her strength was exhausted, and she collapsed by its side.

Her long black hair, bedraggled and full of sand, partly fell over a dark face of pure Indian type. She wore a man's coat and a long skirt of some cheap woolen material. On her feet were the

high boots of the savage. She seemed slight of build and of middle size. Pierre thought her age must be about eighteen.

The old man was grizzled and bent, and bore the marks of a hard life. A trapper of the old days, before there were sheet-iron stoves, provisions, and goodly advances from the fur posts, he had known the meaning of hunger and of biting cold, the peril of blizzards and storms on great lakes. Now he seemed to be broken and apparently nearing the time of farewell to the toil of living.

Matters had to be straightened out as soon as possible, and for the next hour Pierre worked like a beaver. Neither of the Indians appeared able to speak, and he decided that in order to do any good he would have to get his supplies.

Going to the shore where the moose lay dead, he found that one leg of the great animal had gone through the bottom of the canoe that had clung to him by the spring of the cedar ribs.

A great jagged wound in the paunch showed the Indian's shot, while a smaller one just back of the foreshoulder marked his own. One or two bundles that had been placed under the cross-pieces were still in the canoe, and he dragged out a tent that had been wrapped around a small sheet-iron stove and some blankets with a bundle of traps.

Everything else had evidently fallen into the river and been washed away down the rapids and over the falls, or was being ground to pieces upon the rocky bottom.

He then ran down the portage, hindered by his wet clothes, and returned, bearing two of his bags with the tumpline passed over his forehead.

The first thing to do was to start the kettle boiling; and then he covered the Indians with his own warm blankets, hanging their own to dry. He managed to make them swallow some strong tea; and then returned for the rest of his things, leaving his canoe where he had thrown it. On his return he found that Paddy had remained near the girl, and was licking her hand with the nursing instinct so strongly developed in some dogs.

Taking the ax, Pierre quickly chopped down some saplings for pegs and tent-poles, and soon had the Indians' tent set up. Once more he went into the woods and returned with a great load of balsam-boughs, neatly packed on the handle of his ax, and proceeded to make a good bed.

The old man was groaning at times, in a low, resigned manner. He was given another drink of tea, and the young man then decided that the injured leg must be treated.

He slit down the high moccasin, which was nearly full of blood, and then cut through the heavy woolen stocking, and saw, to his dismay, a sharp piece of bone protruding through an ugly wound over the shin. This he washed with water boiled in the kettle.

Pulling hard upon the foot caused the bone to return within the cut, which he covered with a linen handkerchief which he wrung out of the boiling water. Then, after much cogitation, the whole leg was bound up with ingenious splints, in which the broken blade of a paddle, some birch-bark, and strips torn from a blanket played a prominent part.

During all these manipulations the old man had given some signs of suffering; but generally seemed to be apathetic, as if under the influence of great shock; and as Pierre carefully lifted him and bore him to the tent, the poor old body was very limp. It took a few minutes to remove his wet clothes, and the young man wrapped him in blankets. Then he turned to the girl.

"Let me carry you to the tent," he said. "You are shivering in this cold wind."

But she refused again to let him help, and rose with difficulty. In pain she pressed both hands to her right side and entered the tent. She glanced at the old man, now resting quietly, and looked at Pierre with a shy expression of gratitude.

"It is good," she said. "Thanks."

"Now let me see what the matter is with your chest," he suggested, after she had lain down.

But she waved him away impatiently, her cheeks flushing red, and he had to speak authoritatively, declaring that he was a doctor. This was not quite true, for he had only a few years before attended one course in medicine at Laval University.

He was sprung from masterful people, however, and finally gained his way, the girl faintly defending herself as he proceeded to remove some of her dripping clothes.

It took him but a short time to decide that at least two ribs were broken.

He went out of the tent and began to dig in one of his bags, from which he pulled out a little box, in which some things intended for use in case of emergencies were kept, and took a roll of adhesive-plaster.

He used it nearly all in a fairly correct manner, dressing her hurts so that the movements of the injured side might be well restrained.

But during this time, with her chest nearly bare and a red flush upon her dusky cheeks, the girl, obedient yet full of revolt, her modesty outraged, feeling that she was forced to submit, suffering while realizing that good was being done, looked at him with great dark eyes, in which surprise, pain, and resignation were all shown.

But Pierre did not look at her. He was busy, and to him she was but a suffering thing whose misery he must relieve as soon as possible.

He finished his work, and brought out a heavy flannel shirt, which he passed over her head and put on her, and then his own coat.

"Try and take off that wet skirt," he said, "and wrap yourself in the blanket. You're shivering now. I must go and look after that moose."

He went down to the shore, where the dead animal was lying partly in the water, which made it easier for him to turn it while skinning, as it was nearly afloat.

He first went to work to remove the head for preserving, thinking he might be able to take it back with him for the taxidermist. Then, the antlers were very good, and he estimated that they were well over fifty inches wide. In about a quarter of an hour he gave the last stroke that severed the head from the spine. The really important thing was to save as much of the meat as possible. While he labored with sheath-knife and ax he pondered over the situation.

Chance had thrown under his care two poor devils, neither of whom might probably be able to travel for a long time. Their provisions had evidently all been lost when the canoe capsized. Without his aid, they would certainly have been in an awful predicament, badly hurt, with their canoe staved in beyond repair, food all gone, and their gun at the bottom of the river.

The girl did not seem to be in a very bad condition—she was such a sturdy-looking little "savage," notwithstanding her apparent slenderness. He had noticed that the muscles of her arms and shoulders were those of an athlete—graceful and strong. But, then, this spitting of blood was annoying. Could consumption, as with so many of her doomed race, have spread its grasping claws upon her?

With his fragmentary medical knowledge, he managed to recollect that it might point to an injury of the lung caused by the sharp edge of one of the broken ribs. This worried him a good deal, but not as much as the state in which the old Indian was. He had very grave doubts about that case. Compound fractures were bad enough in themselves, but the man was so weak, so prostrated, that surely he must be suffering from some grave internal injury.

As far as Pierre could see, the problem before him was to look after them until they could be left alone—to supply them with provisions, and get back to Lake St. John as soon as possible and send them help.

Now it seemed frightfully far away. From the mouth of the river to Tschotagama there were fifty miles, then over two hundred more to where the Peribonca divided into the Shipshaw and Manouan Rivers.

It was several days' travel up the former — a wild, rough stream, hardly ever used by the Indians, since the Manouan was the direct and easy road to the Grand Lac Manouan, above which were the great trapping-grounds. The matter of provisions was the hardest to solve, and the moose he was now cutting up would have to be their chief source of supply.

If the girl grew worse instead of better, the problem could hardly be solved. He could not expect to meet any parties of Indians even after reaching the forks of the river. The trappers who winter in the upper reaches of the Peribonca had

all gone up several weeks before, he had been informed, and the great river would be deserted.

All he could do now was to cure moose meat and smoke fish for them, to assure their subsistence until assistance could be procured. His own supplies had been calculated to last eight weeks, of which four were nearly gone, but with care they would help a good deal.

So he hacked away at the great carcass, most of the time up to his knees in water, and hung great lumps of meat on a pole under which a poky fire was lighted, to save them from the attacks of meat-flies. Toiling as never before, for the first time during his trip he regretted the impatience that had caused him to take this long journey without guides. After he he had finished cutting up the moose he divided the great pieces in smaller strips, and built a staging of branches upon which they were placed, over a great *boucane*.

Grimy and wet and smeared with blood, and soiled with the rotten wood he kept gathering for his smoke, he labored on, scarcely feeling any fatigue, knowing that he was now fighting for lives, and that all that had occurred before had been tantamount to play.

Several hours passed thus, interrupted by frequent visits to the tent, and it was nearly dark before he decided to stop work, having packed most of the meat in one of his big water-proof bags. He intended to take it out and smoke it again on the morrow. It would be mighty poor food, from a civilized standpoint, but would serve well to sustain life.

He went up to the tent again, glad to put his hands in his pockets and to suck away at his pipe, for he felt weary.

"How is everything?" he asked.

The old man hardly seemed to notice him. A queer, vague smile crept over his features, and one of the hands moved uncertainly; then he relapsed into the state of indifference which, to the young man, seemed ominous. The girl, with a certain shy sullenness, said she thought her father was very ill.

"I hope he will get over it," he answered. "He is very old, and it will take a long time before he is better. But how are you feeling now? How is the pain in your side?"

The energy of her youth and the impassivity of her race did not permit her to acknowledge how much she suffered. She said she was all right; but her quick, catchy breathing, and the expression she could not conceal, belied her words. She seemed to be lying in an uncomfortable position, and Pierre knelt by her, gently raising her head, and adjusted the fir-boughs with a deft hand. She had thrown some of her wet clothing upon the ground, and he took it up and hung it to the ridge-pole to dry.

Supper was the next thing to be attended to, and the teakettle was soon hanging over the brisk little fire. Pieces of moose meat were boiling away in the cooking-pot, and he fried some slices of bacon.

The dog looked on these proceedings with much interest, licking his chops and eying his master patiently, wagging his stumpy tail, and whining from time to time. A search of the provision-bags revealed a good part of a loaf of bread, which Pierre had baked in the sand the day before.

He was crouching by the fire, shading his face from the heat with one hand, while he held the stick he had fastened to the handle of the frying-pan. The girl could see him from where she was lying, and she wondered.

She believed all that the priests had told her at Roberval, and knew that they said that the practises of the Manitou-ilnos, the sorcerers, were sinful and unholy; yet they did wonderful things, and one had told of the coming of the white man and the little yellow *addom* that had licked her hand.

Who was this strange individual, some of whose clothing was such as gentlemen wear sometimes in the woods, and who had curious cooking things of a silvery metal she had never seen before, and speaking, like the doctors and the priests, in good French, was all alone with his dog?

She could not make it out. It puzzled her. She noticed that when he cut wood he was not very skilful, and that the fire he had made was just a little too big to cook comfortably by. He must have had people do those things for him, at other times, like all the gentlemen that came to that country. She noted that he was

strong and tall, and dimly realized that he had fought like a demon to get her out of the water. He was surely a queer man, with his gentle, pleasant voice, and his masterful way of ordering one to do things, and his boyish manner of playing with the dog.

She sought to rise when he came in with a dipper of tea, but he made her lie down again, with just a motion of his hand. She obeyed, and felt bashful at the idea that a gentleman was waiting on her. She took the hot drink, and some bread and bacon, and the young man was pleased to see that she could eat a little. It was a favorable sign.

He also brought food to the old man—some tea and a cupful of the strong broth from the moose meat, in which he had also boiled a little rice from his provision-bags.

Lured by the insatiable Indian thirst for tea, the old fellow swallowed some of the strong infusion, and appeared to relish it, but would hardly touch the soup or any of the other things. He tried a few mouthfuls, but shook his head gently, in a discouraged way, and relapsed into an apathetic state.

Pierre wondered whether he would like to smoke, and, having found the Indian's pipe in the pocket of the wet coat he had removed from him, offered him tobacco. The old fellow accepted it and puffed away when Pierre held a lighted match for him, but after a few whiffs the pipe fell from his mouth unnoticed.

"The poor old chap must be mighty ill," thought Pierre, who, like every one else, had never seen a live Indian unable to smoke.

He sat down near them in the tent, while Paddy, at his feet, watched eagerly for bits thrown at him from time to time. The young man was hungry as a wolf, and attacked his food almost as ravenously.

While eating he began to question her.

"What is your name?" he asked in French.

"Ou-memeou," she answered. "But, no—it is Anne Marie, I was baptized."

"What does Ou-memeou mean?"

"It is the little gray dove, not like Wab-memeou, the pigeon. I am his daughter," and she pointed to the old man.

"You were going back to Lac St. Jean?"

She nodded affirmatively.

"Where were you coming from?"

"From camp, far north, beyond Grand Lac Manouan."

"Why did you come down the Shipshaw instead of the Manouan?"

She did not answer, at first, and finally said it was nearer to their hunting-ground. But somehow he realized that she did not want to tell him the real reason, and went on with his questions.

"I suppose you drifted down on the big moose, suddenly, near the bank, and your father shot quick, and he jumped on you and upset the boat, eh?"

Again she assented with a movement of her head.

"Tell me, how long have you been spitting blood?"

She looked astonished, and shook her head again.

"I do not spit blood," she asserted.

"But this morning!"

"Yes," she answered, and, averting her lower lip, showed him that it had been cut and bruised against her fine white teeth. He felt very glad that his fears were proven groundless, for it simplified matters a good deal.

If she was not consumptive and had received no serious injury to her lungs she would soon be well again and able to care for her father. He sought to recollect how long broken ribs might take to mend, but his memory on that point was hazy, and he could only conclude that it might take a couple of weeks or more.

In the semidarkness, Pierre put up his own little silk tent close to the larger one, and cut up enough wood to last over night. Finding that there was nothing more that he could do for the two Indians he called the dog, that was lying down near Anne Marie, and made ready to enjoy a needed rest.

As the terrier snuggled beside him Pierre looked at him, by the fitful light of the camp fire outside the tent, as he had left the flap wide open, and spoke to him:

"You've taken a fancy to that little savage, Paddy boy."

The dog wagged his tail.

Tired though he was, Paddy's master

tossed about under his blanket for a long time. Suddenly, with a voice full of conviction and marked with a certain bitterness he uttered a sentence which, considering certain fairly recent happenings, was not without a certain tincture of philosophy.

"The deuce take women!" was his remark.

CHAPTER II.

The Blood in His Veins.

BEFORE falling asleep Pierre's thoughts wandered back to lands still farther north and to that ancestor of his, Farquhar Ferguson, beyond whom the family knew none of its forebears.

This first Ferguson was a dour Presbyterian who had wandered to Canada in the trail of the fighters who conquered the country for England. After some years of hard knocks he married, somewhere north of Winnipeg, an Indian girl who bore him a family of four, and made a good wife to him until he was blotted out from among men in a great blizzard.

The inheritence he left consisted in a couple of guns, a fine lot of traps, a tent, and the wages due by the Hudson Bay Company, for whom he ran a small post in the wilderness.

This wealth made the woman a desirable person, and she succumbed to the attractions of a warrior of her tribe, who took in her wealth and her family, knowing that the latter would not long prove troublesome.

The oldest child was a girl, who soon disappeared with a Cree Indian, but the other three, all sons, wandered away over various trails, and the further fate of one only was known, who took to wife a white woman of mixed Irish and French-Canadian descent. His existence ended at the breaking of a log jam on the St. Maurice and his family scattered over the land.

It was known that one of his sons went to sea and was never heard of again, and that another was concerned in the Riel rebellion and had later disappeared after writing once from British Columbia.

Two daughters married farmers and were still living, while a third had become a nun. The youngest son was Pierre's father. Unlike others of his family he had had but two children, of whom one died in Montreal the year of the great smallpox epidemic. Pierre, left an only child, became as the apple of his parents' eyes.

The father had returned from a long journey in the Far West with much gold, which he increased and multiplied in trade, for he had the faculty of smelling out money, just as a mink smells muskrats or fish.

The young man tried for a profession. Medicine was his first choice, but he gave it up after a year in favor of mining engineering, and left this to help his father in his business ventures, for which he also showed a keen nose. From an aunt on the mother's side he obtained an inheritance and bought interests in a pulp-mill, and then in a gold mine in Nova Scotia, which chanced to pay good dividends, and in a fishing venture of Labrador.

Notwithstanding all this, he had considerable leisure which he spent, with an instinct that was probably an atavistic inheritance from the dusky wife of Farquhar, in the woods, where he hunted and fished, and enjoyed the sensation of being drawn toward the North, toward the wild freedom that was to him like a better, purer breath of life.

This particular trip had been taken for two reasons, of which the least was the fact that he had heard something about a proposed railroad to James Bay, in Hudson Bay, and that it would probably pass over a certain river.

Now this stream fell in the Shipshaw, a good day's journey above the point he had reached. An old Indian who had traveled there had described to him, a few years before, something that must have been a very mountain of asbestos. It was worth while looking into, since, if the railroad line passed near it, it might acquire great value.

But the chief reason was that he had met with a disappointment, and at the time felt so hurt and angry that he had run away to the woods for consolation.

His pride had been wounded, for he was young, and no cynic.

The trouble was all over a young lady. Some days at Cacouna, and others during which he followed her to Tadousac and idled with her a golden week or two, had sufficed to give him the impression that he was madly in love with her. A florid and somewhat vulgar mama, and a father who, considered in the light of an efficient provider, but otherwise wholly insignificant, house-broken, and subject to every whim of his fat spouse and slender blond daughter, did not affect her charms.

She was certainly attractive, and flirted as she breathed, naturally and efficiently.

As the halcyon days floated by, Pierre had become certain that he could not live without her and that he was going to propose. This is a serious matter to a youth who means what he says and believes in the everlastingness of love.

But just before he reached a final decision, a white steam-yacht turned up the St. Lawrence and anchored at the foot of the little cliffs at Tadousac, right at the beautiful mouth of the Saguenay. It bore a splendid-looking youth with much money and a very fetching manner, who was introduced by mutual friends, whereupon Pierre felt himself rather neglected.

This had lasted but a day or two before Pierre, feeling that insensibly his goddess was slipping away from him, decided to cut the Gordian knot at once, and proposed on the veranda of the hotel, one fine moonlit night, while the yachtsman was indoors playing billiards.

In justice to the young lady it should be said that she had never meant to engage in anything but a most innocent flirtation with a very pleasant young man, and felt rather sorry for him. She was very gentle and kind, in the sweetest possible way, manifested a sisterly interest in his future welfare, and made him feel, perhaps mistakenly, that the steam-yacht, or its owner, were paramount in her thoughts.

Men take such happenings in many ways, and Pierre suffered from a sense of humiliation that was at first quite intolerable. He wondered whether there might be about him something uncouth, a remnant left by the slight admixture of Indian blood in his veins, that made him undesirable as a mate for so intensely civilized and worldly a young woman.

It did not take him long to decide that this was probably not the case, and that he had simply been beaten in a competition for a prize by a man better fitted for that particular contest. He did not dream of the probable truth, which was that Miss Fanny was really in love with no one at all, and simply sought to have as good a time as possible.

Pierre left on the steamboat for Quebec, told his people he was off for Lake St. John, and gathered up his camping things and started on a trip he had planned a year before.

The journey did him much good. There was comfort in the discovery he gradually and reluctantly made, that he was not really wounded very deeply. In fact it took but a few days before he began to feel conscious that the whole affair might be one of those happenings that leave behind them a sense of having made a rather lucky escape.

Strong and self-reliant, thinking he knew what he wanted, he had been too busy to become much of a man of the world, and it was with some surprise that the feeling came that, after all, the whole thing might have been a false alarm, the awakening in him of the desire for loving companionship, but not a disaster that could lead to the shattering of an existence.

For some hours he slept deeply, and then awoke suddenly with every sense alert, as happens to the wild things of the woodlands and to the men whom the wilderness has called.

His last dream had mingled with the sound of voices, and in the tent near by could be heard a low muttering, a slow pouring out of indistinct words, that, at rare intervals, were interrupted by the softer voice of the girl.

Pierre felt chilly, the fire outside the tent had gone out, and one of his blankets had been given to the old man. He rose and decided to make more fire. It was very dark. Great somber clouds drifted heavily overhead, and the noise of the rapids came in a low, booming sound, interrupted from time to time by the song of the night wind blowing through the jagged tops of the Northland trees.

The flap of the larger tent was opened, and Pierre went in. In the darkness, nothing could be made out but the two indistinct forms lying upon the ground, and he spoke in a low voice.

"What is the matter? Is your father worse?"

"He began to speak some time ago, and says many things I do not always understand, and I fear he is very ill," answered the girl.

The young man went back to his tent and found one of the few remaining candles, which he brought to the large tent and lighted.

He knelt by the old man, whose eyes followed the flickering light for a moment. But he soon paid no further heed to it and began again, in a low voice that seemed to reflect all the sadness of the wilderness, to mutter things that were unintelligible to Pierre.

"What is he saying?" he asked.

The girl listened for a moment and said with accents that had tears in them:

"He says that the month of the falling leaves, Uasteshiau Pushum, is coming, and we must not stay long here. He says the morning will be here soon, and I must boil gum and seal oil to mend the canoe. Also, he says, he feels a sickness and is not well, and will not be able to carry a heavy pack to-day, and we must start early."

Pierre lifted the candle until the light fell upon the girl's face. The lids were not quivering over the great dark eyes, and all the features were calm. But great tears were coursing down her cheeks, and she was stricken hard, and bearing it like a brave, strong soul.

He felt that her sorrow was touching, and that her heart was speaking the things which she could not have put in words.

Looking again at the old man he was shocked to see how great a change had occurred within a short time. The muttered words issuing from his lips came faintly, yet with a certain quiet, confident expression, that showed how far away he was wandering through bygone events of a long, hard life, and stumbling through a mental darkness that was mercifully hiding from him the nearing end.

Placing his hand upon the old man's forehead, which he expected to find warm, it was a surprise to feel it very cold and clammy.

Remembering a pint flask of brandy at the bottom of one of his packs, and thinking it might prove useful, he dragged the heavy bag within the tent and gave the candle to Anne Marie to hold, while he rummaged until he found what he wanted.

Pouring some of the liquor in a tin cup, he lifted the old man's head gently, and bade him drink. The sufferer did not seem to understand at first, but finally Pierre made him swallow it.

Under the influence of the strong draft, the old Indian seemed to revive a little. He looked at Pierre and then at his daughter, shaking his head gently. Their faces were illumined by the candlelight, and he appeared to consider them with some surprise, but the vacant look soon returned and, giving a long sigh, his head sank down once more, and he appeared to fall quietly asleep.

Anne Marie looked at Pierre with shy gratitude. Surely this must be a good man who was so gentle with her old father, and she wondered again what he might be, and how he chanced to be alone so far up the great river.

In some way Pierre realized that the girl would not sleep, and felt so thoroughly awakened that he did not think it best to lie down again. He lit his pipe and sat down beside her, in silence, having blown out the valuable candle, but the chill of the night struck through him and brought a shiver.

The little cast-iron stove he had taken from the wrecked canoe was near, with several lengths of stovepipe packed within it, and in a few moments it was rigged up in the tent. After bringing in an armful of wood, a good fire was soon roaring, and it was pleasant to see the little flashes of red light showing through the cracks.

He rapped his pipe on the heel of his boot, put it again in his pocket, and sat down on his bag, near the girl.

"How long have you been awake?" he asked.

"A long time. I think I have not slept," she answered.

"Much pain?"

"Some pain, not very much. But I am afraid; I am much afraid."

She shook her head and looked in the direction of her father. Pierre tried to reassure her, but somehow words of comfort would not come. The fact could not be hidden that he also feared that the old man's life was fast ebbing away. It was hardly possible to deceive her, and the few things he managed to say were unable to bring any change in the tense look of her eyes.

"You must try to sleep," he advised.

But she shook her head, and he did not insist; and they remained in silence within the tent, listening to the occasional words spoken by the old man, who had fallen asleep, but frequently seemed to be dreaming aloud.

From time to time Pierre opened the little stove to put in more wood, and a red glare would become disseminated throughout the tent, to die out abruptly when the door was closed.

Without, there was the great silence of the wilderness, that is always accentuated by little interruptions. The familiar sounds of the night life that never ceases to pulsate recurred at intervals: the splashes of fish leaping on the water, the intermittent distant hoots of a great horned owl, the rising and dying of the breeze, the ill-defined scratching sounds on the gravel and sand of the tiny beach, where muskrats were at play.

All these, whenever they ceased, seemed to render yet more profound the great stillness that, like some weird cover, wrapped the world up in its folds.

Within the tent there was but the sound of the old man's breathing, and of his occasional words, uttered in a very low voice, full of an inexpressible patience and sadness, as of one who bore quietly some great ill inseparable from the hard life of the dwellers in the waste places.

Some hours passed thus, and the girl felt comforted by the presence of the young man. With the blind trust she was beginning to repose in him as a white man possessed of all manner of knowledge that was hidden from her, she felt as if he might, by the mere fact of being there, prevent the dreadful calamity she feared.

Was he not of the same race as the Oblate Fathers who had taught her to read, as the nuns whose very dress seemed redolent of mysterious things, as the doctors that had power over death and evil, as the rich men who owned the sawmills and the great hotel? What might he not accomplish?

Pierre rose several times during the long vigil. Once or twice he gave the old man another sip from the flask, and replenished the little stove, that burned the wood up very fast. But when the first faint light began to be distinct, even through the canvas of the tent, and while still sitting up, with knees drawn up to his chin that was resting upon his folded hands, he fell asleep, and remained in that position for a long time, until the sunlight showed high above the serrated edge of the woods in the east.

When he awoke with a start the fire in the little stove had burned itself out, and the girl was still watching, lying upon her injured side, her keen eyes resting upon the old man, who still seemed to sleep quietly under the blankets.

"Are you cold?" asked Pierre. "I have slept; why did you not awaken me?"

She shook her head vaguely, and Pierre saw that all her thoughts were for her father. He did not know that as long as he was there the girl was satisfied, since she could call him in case of need, and that she would not have awakened him otherwise; for the sleep of a man, in camp as on shipboard, is a sacred thing, not to be interrupted except for good cause.

Pierre rose with a yawn, but in a few moments was very wide-awake and splashing mightily in the water by the shore, with a cake of soap and a towel lying upon the bottom of his upturned canoe, his shirt-collar drawn down and opened, exposing part of his great chest. The sleeves of his flannel shirt were pulled up as far as they would go, leaving his white, sinewy arms showing in contrast to the brown face and hands he was scrubbing hard.

This over, he took up the ax and, going a little way back in the wood, began to smite lustily, and soon had enough logs for a good fire outside of the big tent, upon which he put the kettle to boil, hanging from a stick driven slanting into the ground.

"What do you think you could eat?" he called to the girl, who was watching him from the tent.

"I am not very hungry," she replied. "If you would let me, I might be able to cook for you. It is the woman's place."

"You just keep still until I let you get up," he answered cheerily. "I'm the cook and everything else until your ribs get mended."

He took great interest in the breakfast, which would be later than usual, owing to that last nap, and often spoke to the dog, who was looking on wistfully and whining with impatience, while his master was sitting upon a big log, holding the long stick he had stuck in the hollow handle of the sputtering frying-pan.

"Look at the dog!" suddenly exclaimed the girl, upon whose face a strange look of fear had come.

Paddy's hair was bristling, and he uttered a low growl as he dashed along the faintly marked path that led over the portage.

He stopped as a tall man made his appearance. The man was loaded with a heavy pack, and walked carefully over the rocks, the great muscles at the sides of his neck bulging with the pull of the tump-line that held up two hundred-pound bags of flour. Both hands were up over his shoulders, grasping the straps and relieving a bit the drag upon his neck.

With the slightest possible motion of his head in Pierre's direction, he kept on toward the landing-place, where he put down his bags with an action of relief, and quietly pulled out his pipe for a smoke while swiftly observing the wreck of the canoe, the marks of the moose-skinning, and the scaffolding erected for smoking the meat.

Then he slowly came up to the camp-fire, addressing Pierre, who had left his seat in the tent and stood before it, with the customary salute of the Montagnais:

"Quey, quey."

CHAPTER III.

The Girl Sees a Fight.

PIERRE repeated the greeting, at the same time handing a plug of tobacco to the newcomer, who pulled his sheath-knife from his belt and proceeded to cut a pipeful.

This done, the man held a bit of birch-bark to the fire and got a light, squatting on the long end of the backlog, after returning the plug. His complexion showed him to be a *métis* (a half-breed). He was a man of great size and strength, with a low forehead and a taciturn, sullen expression.

Nothing was said for a long time, while Pierre went on with his cooking, and the newcomer took note of the surroundings. The flap of the big tent was down, and he could not see its interior. But the wreck of the canoe, the various articles scattered around, one or two familiar spots upon the tent, taught him a great deal, and finally he grunted, inquisitively, in French:

"Old Michel?"

Pierre only then recollected that he had not asked the old man's name, but answered that an old Indian was within the tent, and that he did not know whether or not he was called Michel.

The half-breed looked at him suspiciously, and spoke again:

"Anne Marie?"

"Yes," answered Pierre. "Anne Marie and her old father. They have both been badly hurt."

He went on, unbidden, to give a brief account of the happenings of the day before, to which the half-breed listened in silence, only grunting once or twice during the recital.

Finally rising and pulling aside the tent flap, the half-breed went in, and Pierre felt that a big load had been taken off his shoulders, for the newcomer evidently knew these people, and would probably be able to help him out.

There was no doubt that he would be willing to remain there while the projected visit to the asbestos-mine was accomplished, a matter of but few days.

Then Pierre could take the girl back to Lake St. John; or, better still, the half-breed could be hired to do it. There was also a possibility that Anne Marie might have friends or relatives trapping somewhere in the North, and that she might elect to go there. The old man, unfortunately, played no part in these plans, for it was too evident that his journey was nearly ended.

Pierre's reflections were interrupted by an exclamation from Anne Marie, and he put down his frying-pan to find out what was the matter.

He was surprised to hear her talking excitedly and angrily, while the old man paid no heed to what was going on around him. The external world seemed to have disappeared from his ken, as with slow, nearly rhythmical motions he kept on picking at the blanket that covered him.

The features, in the brighter light of the morning, showed an even more drawn and pinched expression than on the day before.

The half-breed was listening to the girl with a careless, contemptuous expression, and now and then grunted some reply in the Montagnais dialect. Paddy began to bark again, and Pierre looked out of the tent.

Down the path another man was coming, bearing a canoe poised on his head with the tump-line, while in one hand he carried a goodly bundle of traps. Like the half-breed, he went on to the landing-place and rid himself of his load with a grunt of satisfaction before coming up to the tent. From his darker skin and pure Indian features, he was probably a Montagnais, or perhaps a *Tête de Boule*. He nodded to Pierre and looked in the tent, saying something in his Indian speech.

Anne Marie uttered a low moan.

"What the deuce are they bothering that girl about?" Pierre asked himself impatiently. He had taken an instinctive dislike to the two men, especially the first, and entering the tent, which began to be rather crowded, inquired what was the matter.

At first the girl did not answer. She had partly risen, in a sitting position, and was looking steadily at her old father, who was still monotonously picking away at the blanket, interrupting this now and then with slow rotations of his head, the eyes seeming to follow flying things visible to him alone.

"This man, the savage," she finally answered, without looking up at him, "says that he once saw an old man who did these things just like my father, and he lived but a very short time." She crossed herself and spoke again. "I fear much it is a sign of death."

Pierre's head bent down, and he made no reply, for he had during the long night decided that the end must be very near. Going out to look after his cooking, he again held the frying-pan over the fire for a few moments, and then poured out some tea, which he brought to the girl, with food, on one of his aluminum plates.

He felt that he must ask the others whether they would eat. They had undoubtedly broken their fast earlier in the morning, but, Indian-like, would forego no opportunity to feed. The three sat down outside the tent and consumed vast quantities of tea with flapjacks and fried pork.

Pierre had meant to speak to them about such arrangements as could be made to care for the girl, but instinctively felt that something was wrong; that their presence was distasteful to her, and he decided to consult with her first, as soon as opportunity allowed.

The fact was clear that the half-breed was an obnoxious individual. Anne Marie had spoken angrily, and he felt that he was cultivating an intense dislike to him.

The Indian was but an ordinary specimen of his race, strong, short of stature, with an impassive countenance, from which nothing particular could be made out.

After they saw that there was nothing more to eat, the two men rose, said they were going back over the portage for the remainder of their things; and soon departed, pulling away at their pipes and swinging their tump-lines in their hands, while Paddy sniffed at their heels suspiciously.

As soon as they had disappeared, Pierre went to the tent. He wanted an explanation, and it was soon forthcoming.

"Come quick!" Anne Marie exclaimed as soon as she saw him. "Have they gone?"

She was standing. On her cheeks there burned dusky red spots, and her black eyes were flashing. She seemed to be in a passion of excitement, and was trying to subdue it. The hand that was not pressed against her injured side was clenched tightly, and moved tremulously.

"What are you going to do?" she asked eagerly. "Are you going to leave now?"

"Well, I'm sure I don't know," he replied. "I had thought of giving them money to take you back to Lac St. Jean,

or perhaps you would like to go north again with them? Where are they going now?"

"Back to the place we came from?" she replied quickly. "But I won't go with them, either to the south or to the north. I hate them. The half-breed wants me for his wife! I would kill him first, and, if I could not do that, I would rather kill myself!"

She had grown still more excited as she was speaking. Her lips were trembling.

Pierre placed his hand gently on her shoulder.

"Lie down again, Anne Marie," he said. "You may injure yourself with all that excitement. You shall do just as you please. If you won't go with them, there is plenty of room in my canoe, and I will take you back to Lac St. Jean after—"

He interrupted himself suddenly, but she took up his words.

"After my poor old father is dead. Yes, I know he cannot live. I will go back with you, if you will be so good—but how can I? The half-breed will not let me."

"I don't see how he can prevent you," exclaimed Pierre. "You say he wants to marry you, and that you hate him. He can't marry you against your will. Do you mean that there's going to be a fight?"

The young man was beginning to feel rather belligerent. He disliked the half-breed's looks, and sympathized with the girl's feelings sufficiently to make him ready to take her part.

"A fight!" she exclaimed. "Yes, he would fight, but he would rather do some treacherous thing! I don't know what he will do."

Exhausted by the excitement, the girl sank down again upon the blanket under which she had been lying, and looked at Pierre as if hoping that he could suggest some way out of the trouble. He stood there, wondering what kind of a mess he was getting into.

"Tell me all about it," he suggested. "I can't help you until I know what the row is about."

"Yes, I will tell you. Sit down just outside the tent so that you may watch the portage and see when they return. He is very suspicious. He must not see us talking too much. I am afraid he will do you harm. He will do nothing while my old father is living, but afterward—who knows?"

(To be continued.)

LOAFIN' 'ROUN' DE DEPO'.

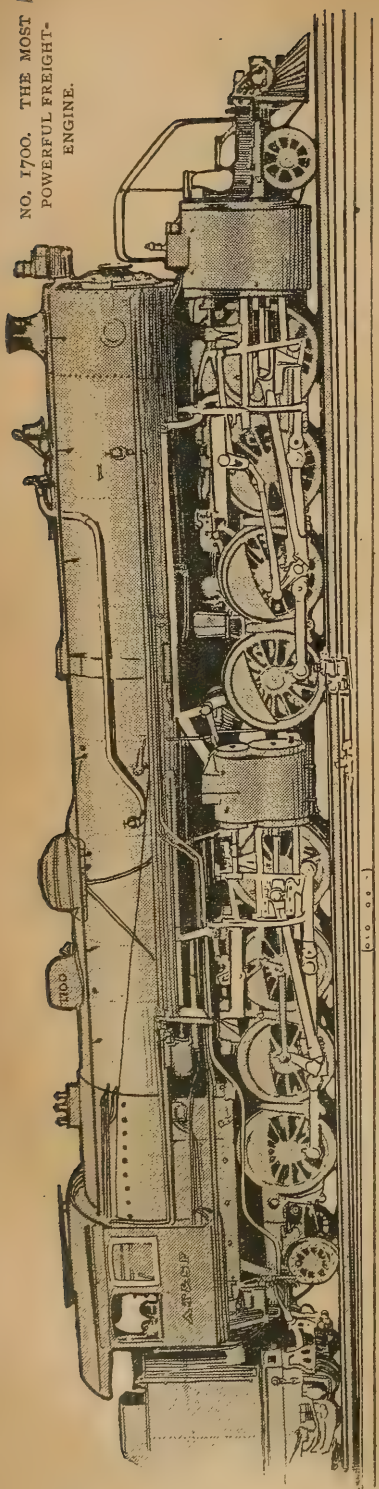
JUS' a loafin' 'roun' de depo', lis'enin' ter de sweet refrains
Ob de "ding dong" en de "toot toot," made by dem dere "chu chu" trains.
Banjo make de sweetes' music, w'en hit's 'comp'nied by guitahs;
But dere music ain' a patchin' to dat ob de "chu chu" cahs.

Like ter lounge upon de platfo'm, lub de rum'lin' noise en din;
Like ter watch dem big black engines pullin' out en pullin' in.
Lub de brakemen and conductohs wid dere caps en buttons bright,
Swingin' ter an' fro dere lantu'ns, makin' signals in de night.

Folks a comin' en a goin', sayin', "goo'-by, how-de-do";
Mos' ob dem a lookin' chareful, en dey's some dat's lookin' blue.
Waitin'-room is nevah empty th'u' de night en th'u' de day,
Folks is allus dere a waitin', fer de train ter take um 'way.

Dat fah 'way look in dere dreamy eyes dey sit 'roun' en pondah;
Dey ain' thinkin' 'bout things dat's near, dere thoughts is 'way off yondah.
Jus' a loafin' 'roun' de depo', talk er-bout yo' life sublime,
Dat ain't in hit wid jus' loafin' 'roun' de depo' all de time.

—JOHN AUSCHUTZ, *in Exchange.*



NO. 1700. THE MOST POWERFUL FREIGHT-ENGINE.

A New Freight Giant.

The Heaviest and Most Powerful Locomotive of Its Type, for Use on the Santa Fe.

THE Baldwin Locomotive Works recently supplied the Atchison, Topeka and Santa Fe Railway with two passenger and two freight locomotives, which are the heaviest engines thus far built for their respective classes of service. While differing greatly in their proportions, the two designs are alike in principle, and have many features in common.

The engines belong to what is known as the Mallet articulated type, first introduced abroad, in the year 1889, by M. Anatole Mallet, a noted French engineer. In the Mallet locomotive, the driving-wheels are divided into two groups, and there are four cylinders, two of which drive the rear group of wheels, while the remaining two drive the forward group. The cylinders are arranged on the compound system; that is, the steam is first used in the rear, or high-pressure cylinders, and is then passed through the front, or low-pressure cylinders, after which it escapes up the stack in the usual manner.

This arrangement provides a locomotive with a large amount of weight on the driving-wheels, but the wheel-base, or distance between the front and back wheels, is necessarily long. Therefore, to enable the locomotive to traverse curves easily, the front frames are pivoted to the rear frames.

The forward group of wheels is thus able to swing laterally, and the engine traverses sharp curves as easily as a locomotive of the ordinary type.

Locomotive No. 1700 (shown in the illustration) has driving-wheels 63 inches in diameter, and weighs, without its tender, 462,450 pounds. This is the heaviest engine thus far built for any railway, and its total weight, including the tender, is approximately 350 tons.

The tenders of both locomotives are similar, and are of exceptional size. Each is carried on two six-wheeled trucks, and has capacity for 12,000 gallons of water and 4,000 gallons of fuel-oil.

The boiler is 7 feet in diameter, works under a pressure of 220 pounds, and has a total heating surface, including the feed-water heater, of 6,631 square feet. There are also 1,745 square feet of superheating and reheating surface.

There are two high-pressure cylinders, 26 inches in diameter by 34-inch stroke, connected to eight coupled drivers, 63 inches in diameter, and two low-pressure cylinders, 38 inches in diameter by 34-inch stroke, connected to eight coupled 63-inch drivers. The pull on the draw-bar maximum power is 54 tons.

It is no exaggeration to say that these locomotives mark a new era in American locomotive practise. And we beg the reader to turn to the article, "Progress in Locomotive Building," in this issue, in which this great subject is treated at length.

"WHICH ONE OF US IS THE GUILTY PARTY?"

THE STOLEN TEN THOUSAND.

BY D. C. FREEMAN.

What Happened on the Night That Denver Joe Made a Haul in No. 47, the Hoodoo.

OUT of the despatcher's office at the barns came Shorty Saunders, looking so sour that they all smiled at him. Half a dozen of the boys who were just taking out their cars for the rush hours greeted Shorty with varying expressions of cheer. He had just been removed from the waiting-list following a long, enforced lay-off imposed by the superintendent for a slip of duty.

"Well, Shorty," they cried, "you're 'on again, off again,' eh? What's the luck? Guess you won't be getting any more 'oversleeps' for a while."

Shorty glumly shook his head. "That chump's sure got it in for me," he burst out. "He's given me the hoodoo for the owl hours on Thirteenth Street. I call that tough on a man who's had to stand a lay-off, and the kid and the missus both sick."

"Oh, well, Shorty, you know the best of men have to go on the carpet now and then. Did they hand you a hard bunch?"

"So-so. Old man said I took too many chances. I told him, as they hadn't put air-brakes on 47, the old hoodoo would get into a smash-up that would cost something before they threw her out. Hanged old trap! I wish she'd go over the bridge into the river some night. You wouldn't see me on her if it wasn't a case of having to."

Peters and Williams started to pull out. "So long," they cried at the doleful motorman. "Keep an extra bucket of sand aboard, and watch her on the crossings—maybe she won't be your funeral yet."

Car 47 was in bad repute with all employees of the C. and S. Every man in the service was familiar with her seeming inanimate devilishness, and they strongly disliked to have anything to do with her.

The feeling was shared from Bozzon, the big Boer boss of the barns, up to the office of General Manager Phillips. Her career was marked by pranks—destructive, expensive, and unaccountable. In the office of the general manager, the offenses of the "queered" car had brought things to such a pass that whenever 47 appeared in the reports it meant a wreck.

Her reputation for mishaps, and for hurting her motormen and conductors, too, dated back to the days of the single-truckers and the old rheostat. With the passing of the bobtails came the extension of the urban lines fifteen miles into the country, and 47 was one of the first double-truckers, but there always seemed to be some misfit about her.

She celebrated her initial run on the new double-tracked balloon route by bumping into a damage suit in which the company was bumped for seven thousand dollars. The complainant was a pedler of sauerkraut and home-made vinegar, pity for whose condition and calling and racked constitution led the jury to render a verdict which jarred the company considerably.

In that instance the motor controller got stuck, and could not be shut off in time to prevent the collision.

With all her misfortunes, 47 bore a charmed existence, even passing through a big fire practically unscathed, while many modern new cars were destroyed.

In the press of business and shortage of cars, 47 had to be brought out for extra duty.

One Friday—it was the thirteenth day of June—47 unaccountably got the bit in her teeth and ran away with a new motorman. She dashed down the steep grade of Sycamore Street like an arrow from a bow.

At the foot of the hill there was a sharp curve. A block straight beyond this curve, and below a forty-foot embankment, ripples the river. Car 47 cut a swath through Widow Maloney's garden, demolished the fences, and—stopped on the very edge of the bank, amid a shower of dirt, broken glass, and twisty splinters.

Chris Knudson, a giant in stature, held the brakes until the brass handle was bent. He was the last man taken out, powerless to utter a word, and fit after that for only flagman's duty.

After that, 47 went into retirement; but when the demand for cars was strong again, forth came she in fresh paint, and with the marks of her last trouble covered up. They did not think, however, to change the number.

The repairers readjusted the trucks and installed a motor that would roll her along at eighteen miles an hour. She toted her thirty dollars a day's worth of human traffic for a month. Then she left the track and destroyed Popcorn Jimmy's little mint near the ball-park, for which the company paid roundly.

John Nancy was sent out with 47 and a trailer with a picnic crowd, and the hoodoo scared a hundred people into teetotalism on the way home by trying to peal through the span braces of the bridge. Nancy declared his ultimatum. He had worked a controller for fifteen years, and he said if he was ordered out with 47 again he'd quit the service and go to ranching it.

Shorty Saunders wished from the bottom of his heart that he could likewise have asserted his independence. But he could not. Through no particular fault of his own, he had been in some little trouble; he had had to suffer the penalty of a long lay-off, while at home there was an instalment indebtedness doubling up on him, and the missus and the kid both sick for a time.

Shorty felt that Skinner should have given him a decent run, along with the other old men of the service. Shorty was ambitious, and wished to rise to the dignity of a place upon one of the elegant new coaches of Pullman pattern with a long run, automatic brakes, compressed-air-whistling apparatus, and everything else to make the life of the man on the front end ideal.

Life on the vestibuled suburban appeared to Shorty to be one unalloyed dream of delight. There was better pay in it; overtime was profitable, and there was less danger of collision than in the down-town district. To be set back twisting the old-fashioned ratchet-brake on a dead little cross-town stub branch was heart-breaking.

Although Saunders remonstrated gently to Superintendent Skinner, and represented that he was entitled to better deserts, having served three years, the super was not impressed.

"You've got no kick," the cold-blooded Skinner growled. "We've given you a nine-hour run, and it's dead easy. I can't give everybody a new car. I want to see if you can keep 47 on the track until we can get 114 out of the shops. Then I'll see. Take the run, or leave it! The waiting-list's full!"

II.

Ambey Bennet, head of the Bennet Lumbering Company, of Bridal Veil Falls, fidgeted in the smoking-car of an incoming train. He was enduring a bad case of nerves.

Mr. Bennet's irritation had been at the boiling-point for hours. The up-country

express, which should reach the city at 4.30 in the afternoon, was behind time. Although he had a journey of less than fifty miles to make on that train on that Saturday afternoon, great odds depended upon his being on time.

Accordingly, as Bennet was more than anxious for a wind-up of the negotiations, he drew twelve thousand dollars from the office and decided he would personally bring the funds to the city. He did not relish the task of carrying this sum with

CHRIS KNUDSON HELD THE BRAKES UNTIL THE BRASS HANDLE WAS BENT.

him; but, as he would reach the city in broad daylight on the afternoon express, and as he would be on the train a matter of fifty-five minutes, he reasoned that there were few chances to take.

A big timber deal, which had been pending for fully a year, had only that day been brought to a head. Flegel, the company's counsel, had rounded up a bunch of squatters, and had shrewdly persuaded them to relinquish title in favor of the syndicate upon a cash basis. That the claimants might not have time to reconsider the bargain, the lawyer had sent a hurry wire to Bennet to come in from the mills with the cash.

Late trains invariably get to be later before they arrive. Mr. Bennet fumed abuse upon the railway company as time wore on and the hour of his appointment slipped by.

Ten thousand dollars of the sum he carried was wrapped up in a neat, compact package of fresh currency, enclosed in a leather case by rubber bands. It reposed in a secret pocket of Mr. Bennet's light top-coat.

The Union Depot steeple clock showed

close to six when the train rolled into the terminal yards. The lumber syndicate president irritably answered the remarks of the conductor as he was preparing to leave the car. He pulled from his pocket a yellow slip of paper, and read several times the lawyer's message: "Must have the cash by half past four to-day."

At the same instant that Mr. Bennet read the single line, a pair of lynx eyes, just behind him, took in the words. The inquisitive optics belonged to a low-browed young man with villainous physiognomy.

A PAIR OF LYNX EYES, JUST BEHIND HIM, TOOK IN THE WORDS.

The uncautious Bennet never dreamed that an accomplished pickpocket and house-breaker was a fellow passenger in the smoking-compartment.

Denver Joe's lynx eyes took in the possible meaning of the yellow slip of paper of the prosperous-looking party before him. All his "professional instincts" were at once aroused. He soon made up his mind that the old gentleman was nervous about the "cash" mentioned in the despatch.

Scarcely had Mr. Bennet reached the door of the coach before the Denver crook had located the exact whereabouts of the money.

Through the corridors of the station two buffeting streams of passengers flowed aggressively along. Mr. Bennet, pressing his precious package to his breast to assure himself it was there, pushed his way more aggressively than the rest.

Denver Joe was close upon him. In the crush, the crook was shoved plumb against the hurrying magnate, whose coat became unfastened. As they jostled along—Bennet being too preoccupied to take note—one lapel was deftly jerked aside, and Denver Joe located the treasure his instincts told him was there.

They emerged upon the plaza. As his besetting luck would have it, not one unengaged cab was in sight, and Bennet cursed.

Just then car 47, on her way down-town from the barns to take her Thirteenth Street night run, with Shorty Saunders at the controller and an extra man, stopped at the plaza intersection. Impatient travelers menacingly shook luggage and umbrellas at her. The crowd clambered aboard; the conductor rang the gong and coached them all to move lively.

In the confusion, a woman dropped her purse. There was more confusion as the woman grew excited, and as craning necks and bumping craniums came together in the general endeavor to assist her. Denver Joe gallantly helped the affrighted woman. His hat was pulled low, and his eyes were flashing brightly. In the midst of the general jostling into seats, Mr. Bennet felt somebody butt into him, and turned to murmur "Excuse me!" to no-

body in particular. Then one lightning flash of the wrist did the business. Denver Joe's hand covered the wallet. In an instant it was transferred from Bennet's coat to his sleeve. Rapidly he moved forward to place several passengers between himself and Bennet.

The car traversed a block, and Joe tried the front door—it was latched from the motorman's side!

If he could slip out by the front platform and drop off—that would be easy. But to get out and away from the car without attracting general attention by getting out at that critical juncture—that was not easy.

Saunders noticed some one on the inside wanted to leave the car. He motioned: "Back platform."

Then Denver Joe cast his eyes through the aisle and estimated his chance of escape.

A man leaned over and spoke to Mr. Bennet.

Two seconds later, the crook noticed that the lumber magnate passed his hand into the side-pocket of his coat—the wallet was gone!

Mr. Bennet half rose from his seat, gasping!

Instantly, every eye was turned curiously upon him. He clutched himself convulsively at various places about his clothes.

"That man's goin' to have a 'polexy fit," shrilly cried a large woman.

Immediately everybody drew away from Bennet, as if he were stricken with the plague.

"I'm robbed!" he shrieked. "Conductor!"

The conductor stoically collected and rang his fares and looked incredulous. Bennet executed a frantic dance in the aisle, and then, down on his feet and hands on the floor of the car, he groped and searched.

The passengers stared at one another. Their faces said: "Which one of us is the guilty party?"

"My money's gone!" Bennet shouted, turning red and white. "I'm robbed within the last two minutes on this car! Conductor—"

"What's that? Robbed! Are you certain?"

"Certain! Certain, man! Yes, yes—I'm sure! See, here, my coat's cut! I demand a search be made!"

In his intense excitement Mr. Bennet laid both hands on the shoulders of the conductor, alternately shaking him and expostulating.

Shorty Saunders, noticing there was trouble aboard, stopped the car, ran around to the back platform and entered. Car men have to fight one another's battles; so, without waiting to hear the merits of the case, or what it was all about, he jerked Bennet away and hurled him into his seat, adding:

"Rough house, eh, old horse?"

"Says he's robbed, Shorty," said Extraman Stevens. "How much did you have?"

"Ten thousand dollars!" fumed Bennet, getting to his feet and rushing at Shorty, who, however, held him. "And I call upon these people to witness the treatment I'm getting. I'll hold you and your company responsible."

"You've dropped your money," challenged Stevens.

"I had it when I stepped on this car, you grinning donkey," said Bennet; "and some one on this car has it."

The passengers began to work themselves into varying stages of indignation, amazement, and alarm. Men and women felt for their purses and jewels, and looked generally uncomfortable.

Two police officers hove in sight.

In a few and mostly incoherent words the situation was explained by Bennet. The announcement of who he was impressed the police and put an entirely different face upon the matter.

"Every one on this car must be detained," said an officer at the door. "Some money has been lost by this gentleman. Any person who objects to displaying the contents of their pockets will please step off the car."

"I'll sue the company," growled one individual. "What a humiliation," tearfully announced a flouncing woman. "This is brainy police work," sneered a drummer. "Quite the regular procedure. They ought to call the wagon and cart us to the station on suspicion."

Denver Joe sat still in his own corner and smiled demurely. It was going to be a close pinch for him. As the searching process began an ingenious plan for dis-

posing of the well-filled wallet flashed through him.

Working the packet from his coat-sleeve, he carelessly dropped it down between the seat-wall and window-casing, and watched the perturbation of the other passengers during the polite examination, as if it held no interest for him.

Notwithstanding the murmured complaints against this high-handed procedure, the passengers yielded up their possessions to the gaze of Sergeant Anderson.

Hand luggage was opened to the inspecting eyes of the officer and Bennet.

The practised eye of the minion of the law thought it beheld in Denver Joe a suspicious character, and accordingly took more liberties with him than with the others.

"Hal-lo!" drawled Anderson, in a tone that Denver Joe dreaded. "Have you seen anything of this gentleman's pocketbook?"

There was a rippling of smiles at the pleasantry.

Denver Joe's only fear was that they might have a picture of him in the rogues' gallery, and arrest him on general principles. Joe said he did not know anything about anybody's pocketbook but his own.

"What's your name, and where are you from?"

"Frank Thompson."

"Well, Frank," good-humoredly remarked the sergeant, "will you come with us for a few moments?"

"What's the matter? What do you want me for?"

"Just want to see you, that's all," soothingly said the officer, leading him away. "I think we can dig up a record of you. No harm, if your last clearance is all right. Have you seen this man before, Mr. Bennet?"

"No," replied the magnate; "not that I can remember."

"Well, he came in on the train with you, didn't he?"

"Yes—that is, I guess so."

"It may be that you did not have the money when you left the train, then?"

"Oh, no. I was too careful to forget it an instant, officer. I am certain that I had the wallet in my pocket when I boarded the street-car."

"Be careful what you say," whispered the officer aside. "The chances are that this crafty guy has a confederate—a woman."

"You're making a big mistake this time," said Denver Joe, with evident consciousness of innocence. "I'm an honest working man, and—"

"Cut it out—cut it out!" sternly commanded the bluecoat. "Now, you know all about this, and you'll have to tell us where that money is."

"Not me. I can't tell you. You won't get that out of me, because I know nothing about it."

Mr. Bennet expressed his doubts about the dishonesty of Joe, but he followed the officers to the police station; while car 47, worth ten thousand dollars more than she was a quarter of an hour before, rolled on down-town.

Denver Joe was put through the sweating process for two hours, but the results were trifling. He told a straightforward story of his arrival in the city, claiming that he had not paid any attention to Mr. Bennet.

Taken in connection with Mr. Bennet's own statement that he had boarded the car with the money and, a few seconds later, missed it, together with the further apparent fact that the thief, if on that car, had had no opportunity to dispose of the roll, constituted, in the opinion of the chief, "a baffling case of robbery."

The following morning, when Bennet reached the station, the chief greeted him with the discouraging information that there were no clues.

"Unless," he added, "you have thought of some circumstances between the time you left the train and reached the street-car that would help to throw light on the matter. I believe your coat was rifled before you came to the car."

"No," somewhat resentfully declared Bennet. "It was an extraordinary emergency. I carried my wits with me. I know that I had that money with me when I took my seat in the street-car. There was, as usual, a big crowd and great confusion and, knowing that it was risky, I was very careful."

"Don't advertise until you hear from me," said the chief at the close of the interview. "We'll keep this fellow under surveillance after letting him go—it may be he has a woman accomplice. We are apt to strike a clue that will

obviate the necessity for paying a large reward. Besides," here the chief grew chesty, "my detectives can find the money if it is to be found."

III.

THE usual inquisitorial device and promise of reward failed to move Denver Joe, who chuckled to himself that he was the real master of the situation.

Although informed that the loser would pay a big sum for information leading to the recovery of the roll, besides insinuating immunity from prosecution, Joe seemed to know no more than when first taken into custody.

He knew the ways of the police. They were as unreliable as a woman in the "lifting" business. He would have none of them. The police usually extracted the important information from a poor devil in a jail cell with "boo—boo—the—pen—for—life" to him.

Then they captured the booty, the public approbation and the reward. When they did see fit to let a prisoner go free he got no consideration—not even the price of an honest man's meal.

Well, if that little roll lying between the ribs of 47 ever got back into his hands it would be his, surely! No use for him to tell the police where it was, for that would be his commitment to the penitentiary, beyond a doubt.

On Monday afternoon, Denver Joe was much surprised to find himself released from the tank.

He wandered up the street with a feeling that he was being watched by a fly hound of the force. If he could only locate number 47, in which reposed his golden prize! A little piece of crooked wire and, he could soon recover that precious wallet.

Joe found his way to the street ending at the Union Depot. There he lingered for an hour, but 47 did not appear. He fancied he saw the conductor on a passing car, but discreetly got out of sight before being recognized. He stalked uptown again, taking a careful, as well as most unusual, interest in passing street-cars.

"THIS IS THE POLICE DEPARTMENT."

"I'm a big chump," audibly declared Joe to himself, coming to a dead stop. "Me out of this business! Pshaw, it's the Central and Suburban, isn't it? An' me a fool to stand here when I can hit the phoney wire and find out where 47's run is to-night."

Going into a dingy saloon, Joe asked permission to use the telephone.

"This is the car-barns," said a gruff voice on the wire. "What's wanted?"

"I want the superintendent."

"Who'd you suppose this is? I'm the man."

"That's all right. This is the police department."

"Well?"

"Where's car 47's run?"

"What d'ye want to know for? I s'pose she's smashed something again and the newspapers are after it, eh?"

"That's the business of this department. Where is it?"

"Oh, 47's on the Thirteenth and Montgomery Avenue branch. Good-by."

"Good-by."

Two hours later found Denver Joe trudging along the cross-town branch. Car 47, he noticed, carried no conductor after 6 o'clock, and the revenue consisted largely of transfers. It was merely an accommodation line and the outer terminal was at the foot of Beacon Hill. It was only a short run—and, as there were few passengers, his actions would be all the more conspicuous.

IV.

It was a thick night, with a blanket of fog pressing down on the town. The tracks were slippery with half-frozen mist. The lights glowed dimly. The damp cold, sweeping onto the vestibule, made Saunders quake to the marrow of his bones. The headlight of 47 winked fitfully. The current flowed erratically.

As he was proceeding out on the 11.45 trip, the headlight blinked through the fog and fell upon the figure of a man at the crossing. His hat was set down over his eyes and, as he threw up his hand as a signal to stop, it seemed uncanny.

The car lurched forward over the uneven crossing. Shorty pulled on the brake to stop her.

Just then the light threw a stronger glare and revealed a white-cloth mask over the chin and mouth of the figure on the ground.

Saunders's first thought was of highwaymen. A misguided one he was, at all events, for the haul of a gun-metal watch and eighty cents, Shorty reflected, would not be lucrative for the calling of a first-class road-agent.

A glance over his shoulder confirmed his suspicions—the intending passenger was disguised.

Shorty let fly the handle of the brake and threw the controller lever over almost to full speed. The car responded with a fierce leap ahead. The black shadow, however, caught the guide-rail and hung on. His feet slipped and his head cracked against the corner of the vestibule of the car. His hat flew off, exposing his face.

"Curse you!" he roared, as he struggled on the platform. "Stop the car! or I'll knock your head off!"

"What do you want?" demanded Shorty. "You're a chump if you're looking for dough on this run."

"None of your business what I want. I've lost something inside, and I'm going after it! Just mind your own affairs! Stop her!"

"Not much," ejaculated Saunders, game to the core.

Not seeing any gun in the play yet, he thought he could take his chances in a rough-and-tumble with his hold-up passenger.

"You've got a funny way of looking for things, friend. Lost articles can be found at the office of the company. Let's see your face. Maybe 'tis a joke."

Suddenly, Saunders snatched away the handkerchief. "Well, you're a bird—"

The reply was a stout crack from Denver Joe's fist squarely upon Saunders's jaw. The doughty motorman reeled backward against the window of the vestibule, smashing the glass and cutting a gash in his forehead. The blood streamed into his eyes.

The sting of the cut brought Shorty's fighting blood welling. The controller lever came off with a jerk. Shorty swung it and delivered a smashing blow upon the highwayman's skull. Denver Joe went down with a cry. He tumbled backward off the platform.

Saunders's senses were whirling. In vain did he try to replace the lever on the motor-box controller. It fell from his nerveless hand.

He sank fainting on the platform, and 47, with rare intelligence and freakish wisdom, shook off the burden of the body near a lonely crossing and ran on her way untrammeled.

The course of the car was decorous enough until she approached the intersecting cross-tracks of the independent system. At this point an old, abandoned switch connected with the double tracks of Montgomery Avenue. The rails were half submerged under dirt and gravel. They had not been used since the pioneer line was constructed.

When 47 struck the split-rail section at full tilt, the flanges of the front wheels took the old turn gracefully and threw the long unused frog over.

With satanic perversity she rolled over onto the down-town track of the rival

SHORTY SWUNG IT AND DELIVERED A SMASHING BLOW.

street-car system, the spring switch dropping back into place as she started up the avenue on a five-per-cent grade.

Fifty yards away from the switch the trolley-wheel slipped off and 47 stopped. Then the law of gravity asserted itself. She began to roll down grade. She gathered momentum quickly. Her brake-chains clattering free, she charged forward in the murky atmosphere as if seeking an enemy to destroy. The trolley pole bobbed and swayed and struck out menacingly in every direction.

Fastenings were torn from poles. Wires tumbled. Guy lines burned and sizzled. Louder and louder roared the motor cogs. Car 47 passed the turnout switches, careened fearfully on the curves, but kept to the main track.

Telephone lines were set blazing as the flying trolley-pole rasped live wires. Sudden blazes started, awakening and frightening dozens of households. The fire department was called out.

One of the motors exploded under the pressure of the terrific voltage of sudden contacts. Persons abroad on the streets were appalled by the remarkable vision of the veritable chariot of fire winging its way recklessly through the public thoroughfares.

At the foot of Montgomery Avenue, the tracks curved onto the trunk line. Here, there were cars from four directions, crossing and turning on a perfect gridiron of tracks. Into the network 47 plunged, the sparks flying from her wheels, her motor-box ablaze, and the scrape of the flanges on the guide-rail singing her death-knell.

She tore loose the curving rails and then bounded diagonally to the opposite corner—an elegant home of brownstone fronted by two large spruce-trees and a yard guarded by a neat fence. Her course was set unerringly for the first of the big trees, which cut her through as a knife.

A shower of splinters and glass filled the air as portions of the dismembered car demolished the fence.

Her trucks were curled up in hopeless confusion.

Her brake-rods were rammed through the mass of the wreck, while her motors lay in smoking pieces on the curb and her entrails were piled up like flotsam of the sea.

V.

About four o'clock that morning, Shorty Saunders was picked up, half dead from exposure and loss of blood, and taken to a hospital.

While he tossed upon a white cot, fighting imaginary foes in fevered delirium, workmen gathered up the wreck of the hoodoo.

In the last of a pile of window-frames and a section of the battered runaway was extricated, the next day, a leather package filled with currency.

Bozzon, the barn boss, took a long look when he examined the package. He wiped his eyes again and again as he expressed his astonishment. The money was duly turned in at headquarters and claimed by Bennet, but no one connected with the finding of the package could offer the least explanation of how it came to be in the wreck.

General Manager Phillips was perplexed beyond measure. This perplexity was increased by two circumstances while they were all waiting—and hoping very earnestly—for the recovery of Saunders.

Some days later the general manager received an anonymous letter through the mails. He threw it in the waste-basket and, having thought about it a second time, dug it out and sent for the detectives.

The unsigned communication called his attention to the fact that the man guilty of the stupendous robbery of $10,000 from the lumber magnate was the motorman, who had picked up the money when it was lost and had hidden it in the car.

Another circumstance that puzzled the general manager was a newspaper article which professed to have inside knowledge of the plot of a great robbery that had been planned. The robbers had been foiled, the paper said, and had seized a street-car to hasten their escape from the city.

Denver Joe conducted his anonymous correspondence from an adjoining city, and announced he was ready to take his share of the reward for testifying against the thief. He gave as a reason for not denouncing the thief at the time that he expected the motorman to split with him. Hearing that the car had been annihilated and the missing treasure found, he was willing to make a clean breast of it. For a consideration, he would substantiate his story and show up in person.

This seemed plausible enough, until an investigation set afoot by the general manager cleared up the matter. On the day that Saunders was able to come down to the office of the general manager, a Pinkerton man corralled the clever Denver Joe and he confessed.

Superintendent Skinner had been inclined to think Saunders had been drinking on the night of the runaway, and had let 47 get away from him. This was sternly denied by the general manager.

And Shorty sat up and took notice when Phillips said:

"Bennet, the man who lost this money, has left in my hands a little remembrance of $600 for you. You didn't know, of course," continued Phillips, with his keen eyes fixed upon the motorman, "you didn't know that the man who lifted the roll from Bennet was on your car and, when about to be discovered with the roll on him, dropped it in the ribs of 47, as well as the tiny pair of shears with which the job was done.

"The man had no time to escape, and got rid of the money in that way. Can you identify the man who tried to stop your car on Thirteenth Street the night you got hurt?"

"That I can," declared Saunders.

"BLONDIE" REYNOLDS MADE UP TIME.

THE New York Central's fast train from New York to St. Louis arrived on schedule time, says the St. Louis *Globe-Democrat*, and after a loss of thirty-five minutes was made on the eastern division, it was up to the Mattoon division to make up for the lost time of the twenty-four-hour run.

When it became apparent that something had to be done, the New York Central officials sent out a call for Engineer "Blondie" Reynolds. He was out on the line, but was soon under way to Mattoon, and when the west-bound train steamed in he was ready to receive her, grim determination in his face as he climbed into the cab.

Then began such a feat as will go down in the history of fast trains for many years to come. He and his fireman held the engine, Conductor Thomas Lawlor and his right-hand man, Charles Scanton, "held the train on the track," and in a few minutes after leaving Mattoon the passengers were on their feet in the aisles with the trainmen, watches in hand, cheering as each mile was gained.

At Granite City a shout went up. "Blondie" Reynolds had done the seemingly impossible. He had not only made up the thirty-five minutes, but he had put the big train twelve minutes ahead of time. When she struck the maze of the terminal tracks he was fifteen minutes ahead, but there was a little loss in getting into the station.

Not enough, though, to lose the day. There was still eight minutes leeway when the observation-car shot under the roof of the Union Station.

Possibilities of the Gyroscope.

BY C. F. CARTER.

THE present curiosity among railroad men, incited by the publicity that has recently been given to the gyroscope or monorail car, leads us to ask Mr. Carter to write a fair-minded and conservative article based on the adaptability of this new contrivance to railroad service.

Many railroad men have been led to believe that the Brennan and Scherl inventions are destined to revolutionize present railroad conditions. Such is far from the case. Although they certainly rank with the greatest inventions of the day, they are far from being taken seriously, and no railroad man need have any fear that the near future will be altered by the principles of gyrostatic balancing.

The two-rail system will be in operation for some time to come.

How the Gyroscope Monorail Car Operates. A Principle That Is Not New. What Some Experts Have to Say About It As a Practical Railroad Issue.

EVER since Louis Brennan exhibited in London last fall a car which runs upon a single rail, and is prevented from falling to either side by the resistance of two gyroscopes carried on the car, and Mr. Richard Scherl, of Berlin, exhibited a similar contrivance, much has been published to make the traveling public believe that the day of the two-rail track is about over and the era of the monorail is about to dawn.

Indeed, the inventions of Messrs. Brennan and Scherl have been heralded so fully that the humble track-walker has been led to believe that the day is coming when his weekly wage will be cut in half because he has to walk along one rail instead of two.

The car propelled by gyroscopic mechanism is far from being anything but an experiment, and as yet is so infinitesimal a factor in changing the standard principles of railroading that its future is extremely doubtful.

Undoubtedly it is one of the most remarkable inventions of this or any age—but is it practical and will it pay?

This is a question that must be asked when anything new is brought out that is intended to make a complete revolution in established principles.

From what we can gather, it is evident that, speaking in the kindliest way, the answer must be, "No."

The case of the gyroscope car was admirably summed up in six sentences in the *Engineering News* of May 30, 1907, after Mr. Brennan had first exhibited his invention and had made such extravagant prophecies concerning its future development. As a prominent consulting mechanical engineer and the operating vice-president of one of the trunk-lines told me substantially the same thing, though at greater length in expressing their views on the matter, in the month of January, 1910, the briefer statement may be worth recalling. Here it is:

"That the feat is a scientific marvel of the first magnitude will certainly be

agreed to by all. Turning now to the projects for the practical application of the invention, we confess ourselves unable to see any prospect of the use of such a system of transport as a competitor of the ordinary two-rail railway.

"Granting all the claims of the inventor, it appears impossible that any such system could seriously be considered for a high-speed line, since it would be inherently more dangerous than the ordinary two-rail system. The proposition of the inventor to operate cars of extraordinary widths on this system may also be set down as an absurdity. The chief practical field for the invention, if the claims for it are substantiated on further investigation, would appear to be for the construction of very light, cheap lines for handling traffic of small volume.

"Some form of transportation line which can be built and maintained at small cost is needed in a thousand places, such as mining and logging railroads, pioneer and military lines for contractors' use, and on ranches and plantations."

A Conservative View.

Hart O. Berg, who brought the Scherl car to America, takes a conservative view of the invention which will go far toward restoring the confidence in it that has been sacrificed by oversanguine enthusiasts. He said:

"We are not advancing the gyroscope monorail car as a perfected invention, but only as an idea that is worth developing. We have brought the car over here to get it before American engineers to let them get their wits to work upon it.

"We are not going to form any stock companies, and we are not going to build any monorail lines yet. We have had several inquiries from parties who wanted a line on our system for various purposes.

"We'll build them all right if any one wants to pay the price, but our prices are not framed to invite business. Instead, we always cordially recommend the present type of two-rail line.

"As we hold the basic patents for the gyroscope, we can afford to play a waiting game; and that is precisely what we are doing. Any one who invents an improvement of any kind for the gyroscope-car will naturally come to us, and we, as well as the inventor, will be benefited."

For Military Purposes.

Mr. Berg's views are sound and conservative. He thinks it not unlikely that the first practical application of the gyroscope monorail system may be for military purposes. Next, he thinks it might be found peculiarly adapted for subway construction. In a close-fitting tube the thing simply couldn't fall over, if it tried. Finally, he is not certain but what it may be found to have speed possibilities. But he makes no predictions.

Mr. Berg has acquired the habit of taking improbable things in hand and making them work. He was concerned in the manufacture of the first automatic pistol, the first successful automobile, the first submarines, and he took up the business affairs of the Wright brothers, the first manufacturers of flying-machines, when they went to Europe.

The Scherl gyroscope car, which Mr. Berg brought to America, was exhibited in Brooklyn in January. It was a working model, 18 feet long and 4 feet wide, weighing 5,000 pounds. It had seats for four passengers and a motorman. It was mounted on two trucks, each having two small wheels, tandem.

The wheels had double flanges to keep them on the single rail. The car was driven by ordinary motors, taking the current through shoes in contact with copper wires on each side of the rail.

How They Work.

The interest in the car, of course, centered in the gyroscopes, of which there were two suspended inside the frame of the car beneath the seats. The gyroscopes are simply tops consisting of steel disks about sixteen inches in diameter, mounted on vertical axes, and hence revolving in horizontal planes like any other tops, but enclosed in steel vacuum chambers. The gyroscopes made up 5.5 per cent of the weight of the car.

The descriptions of the apparatus were more remarkable for what they omitted than for what they revealed; for the details are guarded secrets at present.

Each gyroscope was driven by an

electric motor of three-tenths of a horse-power, mounted directly on the shaft. The gyroscopes turned in opposite directions at the rate of 7,000 revolutions a minute, as was shown by speed-indicators in front of the motorman.

At first the inventors tried running the gyroscopes in the open air. This required 27 amperes, at 110 volts; but when they tried a vacuum two and a half amperes sufficed.

Its First Application.

An interesting feature was that the gyroscopes were pivoted crosswise of the car, so that they would tilt forward and backward freely; but could not move sidewise.

The peculiar gyroscopic principle, which enables a top or wheel set to spinning in a given plane to hold to that plane, regardless of the laws of gravitation, has been understood and utilized for a good many years.

Foucalt, the French physicist, made use of it in an experiment half a century ago to demonstrate the rotation of the earth.

Soon after L. Obry, of Trieste, France, invented a steering-gear for torpedoes, in which a gyroscope was used to control the rudder and hold the torpedo on a predetermined course. Obry's invention made the torpedo an effective instrument of war, and it is still steered by his apparatus.

In 1856 Professor Piazzi Smyth used the gyroscopic principle in a device intended to secure a steady support for an astronomical telescope at sea.

Used on Ships.

Dr. Otto Schlick used a gyrostat in an experiment in 1905 to diminish the rolling of ships. Although the experiment was an unqualified success, no vessel has yet been equipped with a gyrostat.

Finally Louis Brennan, of England, and August Scherl, of Germany, working independently and unknown to each other, tried the gyroscope as a means of maintaining the equilibrium of a monorail car. Mr. Brennan, who, by the way, is the inventor of a torpedo which is steered by wires, which it unrolls as it pursues its course, was the first to announce his discovery, and he was able to obtain a patent on the plan for enclosing the gyroscope in a vacuum chamber.

Mr. Scherl and his collaborator, Paul Froelisch, however, got ahead of Mr. Brennan when they discovered that the gyroscope needed a little help. This was provided by an apparatus which they called a "servo-motor."

When the car leans to one side and the gyroscope tries to pull it back, the "servo-motor," by means of a delicately adjusted series of brass levers enclosed in a glass case, automatically feeds itself some electric current which generates power, by which a pull is exerted by means of levers and reach-rods on the gyroscopes to tilt them farther over, and thus intensify their action.

As the car returns to an even keel, the current is automatically shut off from the servo-motor. The gyroscopes are connected by means of toothed quadrants, so that they both tilt together at the same angle.

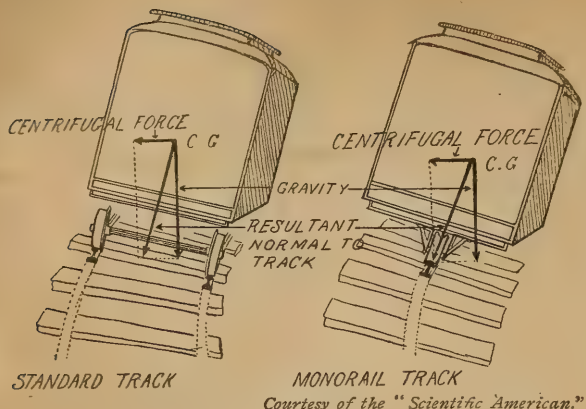
Props for Stops.

There are props on each side of a car, which are put down to support a car when a stop is made.

The operation of the gyroscopes is entirely independent of the running of the car. They keep right on spinning, no matter whether the car is running forward or backward, fast or slow, or is standing still. Their function is solely to keep the car upright.

Their axis of rotation is normally at right angles to the track. If the car tips to either side, the upper ends of the gyroscopes rotate slowly in a circle, just like a spinning-top, in an effort to bring their axes of rotation parallel to the monorail. The circle described by the top grows smaller until it disappears. This kind of movement is called "precessional motion." It is a law of gyroscopic motion that, if precession is hastened, the body rises in opposition to gravity.

The gyroscopes, being rigidly attached to the car, are practically a part of it; and the servo-motor by accelerating precession causes the depressed side of the car to rise promptly. As it rises it causes



Courtesy of the "Scientific American."

OLD AND NEW METHOD OF ROUNDING CURVES.

a precessional movement in the opposite direction, which checks any tendency to oscillate.

This process had an uncanny effect. When the car was brought out on the track that had been laid around Clermont Skating Rink, in Brooklyn, and left standing empty, it would sometimes sway slightly to and fro like a man who had celebrated not wisely, but too much.

The weight of five or six men always had a sobering effect, however, and the car would make the circuit of the rink steadily enough, always leaning inward in going around a curve in proportion to load and speed.

Heavy Side Rises.

If one or more of the passengers threw themselves on the side of the car, instead of upsetting the heavy side would rise.

When running empty the car would lean in farther on curves than when loaded, always straightening up on an even keel on reaching a tangent. In other words, the gyroscopes did for the monorail car what superelevation and easement curves do for two-rail trains.

That the gyroscope will continue to revolve from its own momentum after the current is shut off, was proved when a fuse burned out as the car was being taken out on the floor.

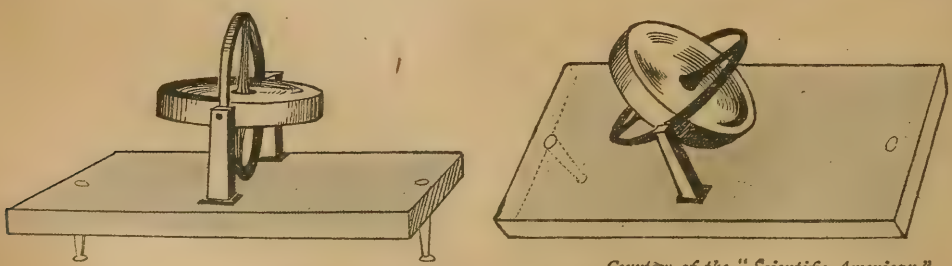
It made the circuit of the rink and returned to its stall with current supplied to only one of the gyroscopes. On reaching the stall one gyroscope was making its usual 7,000 revolutions a minute, while the other was only making 4,500. But they held the car steady.

Noise and Vibration.

The humming of the gyroscopes makes a loud roar, which sounds much like a planer dressing a knotty board. They also cause a vibration that to a passenger possessed of nerves is intolerable. Until the fearful noise and vibration are eliminated the gyroscope car can hardly be considered desirable for passenger traffic.

Many preposterous claims for the gyroscope monorail system have been made in print. Whenever they are questioned the doubter is reminded that all sorts of dire failures were predicted for the railroad less than a century ago. But the circumstances are totally different.

The world did not know anything at all about railroads in the second decade of the last century, and may therefore be pardoned for failing to grasp at once



Courtesy of the "Scientific American."

VIEW SHOWING GYROSCOPIC MOVEMENTS.

If the table (representing platform of car) be tilted transversely, the gyroscopic fly-wheel will tilt fore or aft according to the direction of its rotation, and there will be developed a strong resistance to the movement of the table. This fore-and-aft movement is called the precession.

their possibilities. But a great deal has been learned since; and while a great deal more remains to be learned, certain elementary things are so well understood that there is no excuse for not recognizing the limitations they impose.

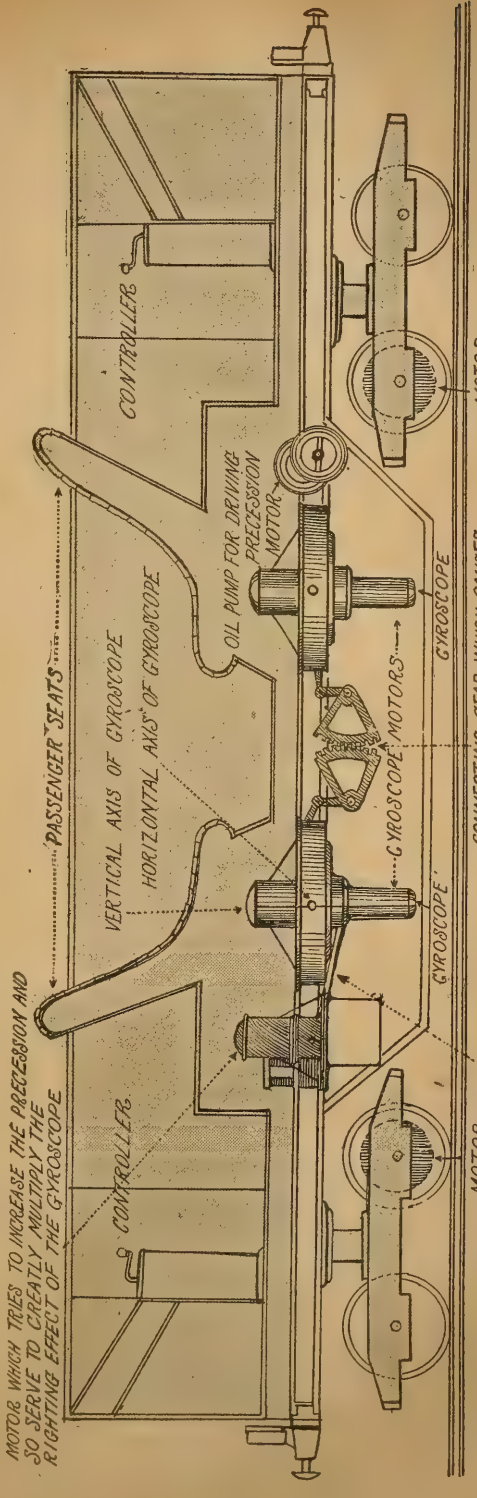
To begin with, the monorail car is wholly dependent upon the gyroscope to keep it upright. While a well-built gyroscope is perhaps no more likely to break down than any other well-built machine, it is certainly not less liable to do so. It must, therefore, be considered as an added element of danger not possessed by the two-rail road.

As for the extravagant claims for great speed that have been made in behalf of the gyroscope car, it must not be forgotten that there are certain obstacles to overcome in maintaining high speed that are always the same, whether the car runs on one rail or on six.

One of these is atmospheric resistance. For moderate speed this is relatively unimportant; but on getting up to sixty miles an hour or more it becomes a thing to be considered.

At 110 miles an hour the atmospheric resistance is nearly four times as great as at 60 miles an hour. To drive a car, 30 feet wide and 10 feet high, at the rate of 200 miles an hour (which has been soberly proposed as quite within the bounds of possibility for the monorail) it would be necessary to overcome an atmospheric resistance of 60,000 pounds, which alone would require 32,000 horsepower.

It has been claimed that the monorail car can go around phenomenally sharp curves. As a matter of fact, the ordinary two-rail car is hauled around curves on wharves and docks, in city streets and elsewhere, quite as sharp as any the monorail is alleged to be able to negotiate.


CONTROLLER
OIL PUMP FOR DRIVING PRECESSION MOTOR
MOTOR
CONNECTING GEAR WHICH CAUSES GYROSCOPES TO PRECESS (ROCK) TOGETHER AND EQUALLY
GYROSCOPE
PASSENGER SEATS
VERTICAL AXIS OF GYROSCOPE
HORIZONTAL AXIS OF GYROSCOPE
GYROSCOPE MOTORS
GYROSCOPE
MOTOR WHICH TRIES TO INCREASE THE PRECESSION AND SO SERVE TO GREATLY MULTIPLY THE RIGHTING EFFECT OF THE GYROSCOPE
CONTROLLER
MOTOR
CONNECTION FROM PRECESSION MOTOR TO GYROSCOPE

LONGITUDINAL SECTION THROUGH SCHERL GYROSTATIC CAR—WITH EXPLANATIONS.

Courtesy of the "Scientific American."

But these curves are taken cautiously and at slow speed.

Climbing the Grades.

The tendency of a monorail truck, traveling at high speed, to go straight ahead on striking a curve, is not likely to be any less than that of the ordinary truck. The single wheel will be just as prone to climb the rail and land the train in a corn-field as two wheels traveling side by side.

It is rather difficult to see just how the gyroscope is going to enable monorail cars to climb any steeper grades than are possible for ordinary cars.

A car cannot go beyond a certain limit, no matter how many rails it runs on or how its wheels are arranged, unless one of the wheels happen to be a cog-wheel traveling in a rack.

The steepest grade climbed by an adhesion locomotive on a railroad handling miscellaneous traffic was ten per cent. That feat was accomplished on a temporary track on the Baltimore and Ohio in 1852. The achievement has not been duplicated since, and no one wants to duplicate it.

Railroad men are not lying awake nights studying out ways to build lines with steeper gradients; their one idea is to reduce the grades they have, and they are rendered unhappy by a grade of one per cent.

Calling on Imagination.

Even if, by the magic of the gyroscope, cars could be enabled to climb abnormal grades, the feat could be accomplished only at an expenditure of power out of all proportion to the results.

As for the proposal to bridge wide chasms simply by stretching a cable, upon which the monorail is to cross like a slack-rope walker, with the gyroscopes instead of a balancing-pole to maintain its equilibrium, no engineer will take that too seriously.

And, no matter how many rails a train runs on, the imperative necessity of being able to stop quickly, as well as to get up speed, remains unchanged. Just how the braking power of a car is to be increased by robbing it of half its wheels has not been explained by those who talk of running from 120 to 200 miles an hour.

The fascination which the monorail has exercised upon the imagination of inventors is one of the most curious things in the history of the railroad. Almost from the very beginning men have sought to improve the railroad by taking away half its rails.

An Old Story.

Thomas Telford, the great Scottish engineer who played so conspicuous a part in developing internal improvements in England and Sweden, first proposed the monorail as long ago as 1831. Since then a continuous succession of inventors has patented various forms of single-rail railways, all of which were to revolutionize the world's transportation systems, but none of which has done so.

In 1877 F. I. Rowan read a paper before the Society of Arts in London, advocating the building of monorail lines as pioneer railways for undeveloped and difficult countries.

In 1883 Charles Lartigue, a French engineer, built primitive monorail lines in Algeria and Tunis that were operated by horse-power.

F. B. Behr took up Lartigue's idea, building an experimental line near Victoria Street, Westminster, in 1886. Two years later he built a short line from Listowel to Ballybunion, Ireland, which was operated for several years.

In 1897 Behr had an exhibition monorail at the Brussels Exposition, running cars 60 feet long, 10 feet 10 inches wide, and weighing 70 tons. On one occasion he claimed to have attained a speed of 83 miles an hour.

And There Are Others.

Lartigue and Behr's system was really not a monorail, but a five-rail arrangement. The principal rail, from which the weight of the car was suspended, was placed 4 feet above the ground, at the apex of A-shaped supports, one meter apart.

On either side of these A-shaped supports were two guide-rails, on which wheels ran to prevent oscillation. There were eight vertical double-flanged wheels

4 feet 6 inches in diameter and 32 small guide-wheels.

An attempt was made to build a Behr monorail line between Manchester and Liverpool in 1901, on which the usual miraculous speed—which seems to be an inseparable feature of all monorail schemes — was to be maintained, but nothing came of it.

Behr also tried to get up a company in 1906 to build a monorail line from New York City to Coney Island; but that also fell through, and since then nothing further has been heard of his system.

Other Systems.

On the outskirts of New York City a monorail line, three miles long, is being built from Bartow to Belden Point on City Island. While the weight of the car is actually carried on a single rail, it is really a three-rail system. In order to maintain the car in an upright position, two light suspended rails are carried on supports above the track.

Wheels bearing against these balance the car, and also serve the purpose of trolley-poles.

The Tunis system, as it is called, is very similar to the E. Moody Boynton system, which was extensively exploited in 1899, but which, nevertheless, met the usual fate of the monorail.

The only true monorail system in actual operation to-day is the Langen suspension line from Elberfeld to Barmen, Germany. It is an elevated structure, from which cars 38 feet long are *suspended* from a single rail instead of running on two rails above the structure.

If the monorail, having the moral support of the gyroscope, can succeed in living down such a past as that, it will be welcomed by engineers and railroad men alike.

What an Authority Says.

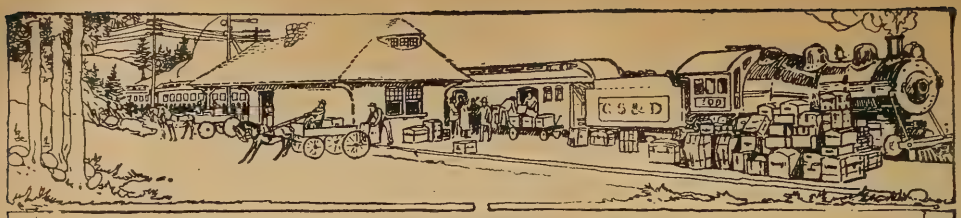
The *Scientific American,* in a recent editorial, says:

> Brennan and Scherl, each working independently of the other, have recently proved that a car containing a pair of gyroscopes can be run upon a single rail and maintain its stability under varying conditions of eccentric loading, side winds, and curving track. Upon seeing a practical demonstration of this fact, and submitting the car, as the writer recently did, to various severe and successfully endured tests, it is natural, in the first moment of enthusiasm, to predict an immediate and widespread application of the system, or even the eventual abandonment of the present two-rail track and trains in favor of the monorail type.
>
> Sober second thought, however, must convince any thoughtful and practical mind that, in spite of the brilliant results of the recent demonstration, the monorail gyroscopic car, in the nature of things, can have only a more or less limited application under present day conditions.
>
> It seems to us that if there is a future for the new system, it will be found in the construction of pioneer railways through undeveloped country, and particularly through mountainous and hilly country where the line must of necessity be very circuitous. The self-adjusting qualities of the car enable it to run around curves which would be altogether impossible for a two-track railroad. The monorail track could be located around a hill or bluff, through which a two-track railroad would have to pass with heavy and expensive excavation. Moreover, for this class of railroad a much lighter car would be practicable and extremely high speeds would not be demanded. This decrease in weight and speed would mean a great reduction in first cost and subsequent cost of maintenance of the system.
>
> If the new type should demonstrate in service of this kind its commercial practicability, it is quite conceivable that it would be gradually applied to the more important lines of travel, and eventually to the main trunk roads.

Opinion of an Engineer.

S. L. F. Deyo, chief engineer of the Interborough Rapid Transit Company, said, after seeing the car in operation:

"I do not think the monorail car has passed out of the experimental stage yet, but that is not saying that I do not believe that some day it will come into use for certain kinds of travel. If there were a collision, for instance, and a monorail car were derailed, it would probably turn turtle. In such a case I would prefer to be on board of a two-rail car."



THE "CONS" OF AN OLD CONDUCTOR.

BY GEORGE FOXHALL.

A tie is the shortest distance between two rails.

A section-boss is the gang's substitute for a dictionary.

The " last spike " is the signal for repairs to commence.

The president of a railroad is the public's idea of " the easiest way."

A section-hand is a man who is quite indifferent to rain, shine, or work.

Rolling-stock is what a railroad always has either too much or too little of.

An air-brake is a thing used by newspapers on which to place responsibility.

Railroads are helpless institutions, devised to give legislators a chance to become popular.

A right-of-way is a strip of private property, trespassers on which cannot be prosecuted.

A block is that forbidden space of track lying defiantly between a passenger and his dinner.

Rails are things made by the steel trust for the purpose of indicating the prosperity of the country.

A suburban smoking-car is a helpless corporation's retort. It foreshadows the wrath to come.

A train is the maximum of speed multiplied by the maximum of safety, producing the minimum of commendation.

A railroad commission is a party of inquisitive gentlemen commissioned to pick up a few of the rudiments of railroading. They never do it.

HOW KOMO BILL WENT EAST.

BY WILLIAM DAVID BALL.

He Made Up His Mind To Quit the Cattle Country—and He Did.

THE fall round-up was over. The last drive of a thousand steers had been made to Wolcott, the shipping point. Komo Bill, night-wrangler for the T. Y. outfit, sat on his heels near where the cook was washing dishes, and stared moodily into the camp-fire.

"Say, Chub," he began, by way of opening a conversation, "don't you ever get tired a cookin', an' a washin' crockery?"

"Naw," answered Chub; "I'd rather sling chuck than get shook up the way you do sometimes. What you got on your mind, Komo?"

Komo looked up gloomily. "Tired, that's all," he answered. "This buckarooin' life is gettin' stale."

There was no comment from Chub.

Komo resumed his watching of the fire. Presently he got up with an air of weariness, kicked a loose sage-brush into the fire, and again addressed the cook:

"I'm goin' East, Chub."

"That so?" said Chub, mildly inquisitive.

"Yep. Take the stage from Kremmlin' on Tuesday; probably go to Chicago or New York."

The cook's face lighted up with a sudden thought.

"Say, Komo," he laughed, "you ain't got no money, and the rest of the boys is broke. Where'll you get the cash?"

Komo smiled a superior smile, and glanced at Chub patronizingly. "You leave that to me, Chub. I'll get there."

Komo Bill, with the air of a man about to order out his private car, sauntered over to where the horses were corralled. Around the camp-fire that night the boys were told of Komo's new plan. Komo himself was absent—gone to the ranch, six miles away, to see the foreman. The cook related what had passed between himself and Komo Bill, and also gave his opinion about the matter.

"Komo'll never get to Chicago without he rides a box car," he said. "He can't borrow no money, an' the cattle-trains has all gone. What's he goin' to do?"

Various plans, of more wit than sense, were suggested by the sympathetic listeners. They were used to Komo Bill's "lay-offs," as they called them; but till now he had manifested no desire to travel farther east than Denver. That he should start for Chicago or New York furnished good material for comment and amusement; but it scarcely caused surprise.

"You listen to me, boys," said Petey Johnson; "I'll stake my last bean that Komo'll make good. He's got brains."

In the morning Komo Bill started for Kremmling on a horse borrowed from the outfit. The farewells were said casually, and consisted for the most part of, "So long, Komo!" and "So long, ole man!"

As the night-wrangler rode over the nearest butte, his comrades caught a few faint words from one of their favorite songs:

> Oh, I'll sell my horse an' I'll sell my saddle;
> I'll ride no more for the T. Y. cattle.

Komo Bill stood in front of the Texas Steer, the largest saloon in Kremmling, and watched the stage as it lumbered up to the post-office and general store. One passenger alighted — a slim, well-knit man of medium height, who walked

quickly up the street and entered a restaurant.

Komo watched the newcomer with interest. His clothes were perfect. They reminded Komo of the East, and also that to-morrow was Tuesday—the time he had set for his going.

As yet he had failed to raise the money for his fare. He had borrowed eleven dollars from Jake, the sheriff. Eleven dollars, Komo figured, would just about pay his stage fare to the railroad station. It would be the height of folly to start with such a ridiculously small sum. The roulette-wheel in the Texas Steer had taken the eleven dollars, and Komo had taken a walk to see the stage come in.

"This is the hardest proposition I ever tried to rope," he grumbled, as he fixed his eyes meditatively on the restaurant windows. "Guess I'll take a walk and think it over."

The one thing lacking thus far in the present problem was opportunity. This was to come in the person of the stranger who had just alighted from the coach and whom Komo Bill had keenly noticed.

"I HAVE A SOMEWHAT DIFFICULT JOB ON MY HANDS."

A settled gloom darkened Komo's face. He growled an unintelligible answer to the bartender's friendly greeting, and passed to the rear of the saloon. The two private card-rooms were unoccupied—or, so Komo thought. He entered the first and sat down at the table. The door

between the two rooms was partly open. Presently he heard voices.

"Jake and that dude feller," he commented without interest. He half rose from his chair to shut the door, but sat down again quietly with his head bent forward.

The stranger was speaking.

"Yes, you see I have a somewhat difficult job on my hands," he was saying. "The kidnaping occurred ten years ago at the wharf in New York Harbor. This Joe Borden has had plenty of time to change his appearance. He is described as tall, well built, with brown eyes and hair, and a slight limp in his left leg.

"At the time the affair made but little stir; now, however, legal complications have arisen in the will of a rich New York man. The relatives want Joe Borden. Information has come to headquarters that he is here at Kremmling, or in the near vicinity. I want your help, sheriff, your cooperation—"

"I'll help you, stranger," the sheriff interrupted, "but hold your lines a minute till I get my memory goin'. Seems like I've heard a friend of mine tell of Joe Borden, an' if I recollect right he said Joe Borden was dead—died in New Mexico, I believe.

"But I ain't certain about it at all. Your man may be right in town now, for all we know. Say, I'll be busy from now till along 'bout two o'clock, but you stick around an' I'll bring my friend so's you can talk to him yourself."

Komo Bill quietly let himself out the rear door. His face was radiant with smiles.

"Joe never did talk much 'bout his wild and frivolous boyhood," he mused, "but I never knew he was that bad. Anyhow, I got brown eyes an' brown hair—an' I guess I can limp, too, when it comes to a show-down."

Komo Bill's preparations were quickly made. Alone in his room, he put on a black suit; it was somewhat faded and wrinkled, but still it was a black suit—a mark of respectability. He buckled on his belt and made sure that the big .45 Colt's worked easily in the holster.

Carefully he locked the door and pulled down the window-shade. A few clothes and trinkets thrust into a battered "telescope," and everything was in readiness. His saddle, chaps, and spurs he had already entrusted to Jake, with minute instructions as to their welfare. He sat down, crossed his feet on the window-sill, and briefly reviewed his plan of campaign.

At two o'clock he would interview the stranger in the private room of the Texas Steer; at four o'clock, if all went well, when the stage from Steamboat passed through he would be on his way to the far East.

But during those two hours the sheriff must be absent. By some method or other he must be put out of the way. Komo Bill smiled broadly; he had devised a method.

A knock on the door. Komo turned his head and grinned at the door-knob. The knock was repeated. Some one descended the stairs.

"Must be 'bout two o'clock," said Komo, as he peered through a slit in the window-shade. He saw the sheriff cross the street, enter the post-office and after a few moments come out hurriedly.

"Campin' on my trail!" exclaimed the delighted Komo. He craned his neck until the sheriff disappeared around a corner.

A moment later, "telescope" in hand, he walked into the post-office.

"Sheriff is looking for you, Komo," said the storekeeper.

There was a general laugh from the men standing around. Every one knew of the friendship that existed between Komo Bill and Jake.

"That so?" queried Komo blandly. "I'm lookin' fer him, too. You know Jimmy of the 'four - bar - four'—I met him this mornin', an' he says he saw Duck Flinn, the rustler, 'bout three miles east of Yampa. If you see Jake, let him know."

The news started a commotion. Two of the men rushed out and sprang to their horses. Komo Bill followed, waving aside the eager questions and excited demands for further information. As he entered the Texas Steer he saw the two horsemen turn the corner in pursuit of the sheriff.

The hands of the clock above the mirror pointed to a quarter past two. Bill set his "telescope" down near the door and hurried to the room where he knew the detective waited.

He opened the door and stepped in. The stranger, with his hands clasped behind him, stood looking at the pictures on the wall. At the noise he turned.

For an instant the two men faced each other. Komo Bill gave a quick start of alarm, and whipped out his revolver. His eyes shone with fierce questioning from beneath the wide slouch-hat. The stranger looked calmly at the black muzzle pointed at his breast.

There was no fear—not even surprise—in his eyes.

"Sit down," said Komo in a low voice. "Put your hands on the table." The stranger obeyed.

When Komo spoke again there was less strain in his voice.

"I reckon you ain't had much experience with the business end of a gun. People in this here country generally throws up their hands."

The stranger laughed.

"Oh," he replied, "you see when I know that the man with whom I am dealing is on the square, I take chances."

Komo smiled at the compliment, but did not relax his vigilance. The man at the table leaned on his elbows and inquired smoothly:

"Might I ask the reason for this little—eh—"

"Gun-play?" suggested Komo, as he threw one leg over the back of a chair and rested his gun on his knee. "No, you can't ask just now. You're a detective, ain't you?"

The question came sharply, but the stranger did not move. His voice was low and even as he answered:

"I don't see just how that concerns you, but I don't mind telling you that I am not a detective."

"Oh!" said Komo. There was a world of relief in his voice.

He slipped his revolver back into the holster and went on to explain.

"Mostly I can tell a detective by instinct, but sometimes I get off the trail. Detectives have a way of snootin' around in things that don't concern them. Now, some folks thinks I'm dead, which of course ain't nobody's business, but I ain't carin' to have no detective tie on to it."

The stranger's dark eyebrows lifted slightly. His next question came in a voice even smoother than before.

"What is your name?"

Komo's smile was genial and confidential—in fact, there was a trace of silliness in his smile—as he answered:

"They've called me Bill—Komo Bill—ever since I came from New York, about, oh, about nine or ten years ago, I guess."

Again there was an almost imperceptible upward twitching of the dark eyebrows. Komo took no notice, but turned and walked to a small table in the corner. The stranger's eyes sparkled—there was a slight but unmistakable limp in Komo's left leg.

"Let's have a game of pitch," said Komo cheerfully, picking up a deck of cards from the table. He turned to confront the muzzle of a revolver held within a foot of his head. His teeth came together with a click.

"I guess I ain't takin' no chances this

"PEOPLE IN THIS HERE COUNTRY GENERALLY THROWS UP THEIR HANDS."

time," he remarked dryly, as his hands went up above his head.

"Right about! Face!" snapped the stranger. Komo pivoted on his heel. A light hand removed his gun and deftly felt his pockets.

er sharply. "You go because you are wanted! Now, to business! As I understand it, the stage for Wolcott starts at four o'clock. We leave then. If you have any clothes to take, get them at once. Ordinarily, I handcuff my man,

"WHY DON'T YOU FIX IT NOW?"

"You may face this way!" The stranger was seated on the table with his feet on a chair. "You are going back to New York with me, Joe Borden," he said, watching Komo with narrowed eyelids.

The quick start and sharp intake of breath that greeted this announcement were admirable—admirable because they were not overdone. They suggested great emotion restrained with difficulty.

"To New York!" gasped Komo. "Besides, that ain't my—"

"That's enough!" interrupted the oth-

but in the present case"—he paused and ran his eyes over Komo's muscular frame with an air of mild contempt—"in this case I feel safe in allowing you to travel almost as if you were my companion. But remember, I am quick with a gun!"

"I guess you got me dead to rights!" murmured Komo.

The stranger put his revolver in his hip-pocket, and pointed to the door. There were no customers in the saloon. The bartender had taken advantage of this unusual state of affairs by going to sleep.

"Let's have somethin'," said Komo, as they neared the bar. Suddenly the galloping of a horse sounded in the street. A fiery little bronco dashed up to the hitching-post. The sheriff swung from the saddle.

Komo Bill groaned, and glanced furtively at the rear door.

"Stage comin'!" shouted some one from outside.

The sheriff entered the saloon. The stranger caught Komo Bill by the collar and pushed him forward.

"Here, hold this man!" he cried in quick, incisive tones. "I'll return in a moment!"

The sheriff swore as the detective sprang past him and through the door. He turned to Komo Bill.

"What do you—"

"Don't give me away, Jake! Don't give me away now. He thinks I'm Joe Borden. You know Joe's dead. Ten minutes' telegraphin' to Albuquerque will fix things."

"Why don't you fix it now?" cried Jake.

"Sh!—the explainin's got to be done at the other end. Can't you see?" He lowered his voice impressively. "I'm goin' East!"

The stranger appeared in the door, suit-case in hand. The sheriff grinned. Holding Komo by the shoulder, he pushed him roughly toward the door. "You fool!" he whispered in Komo's ear. "Why didn't you let me in sooner?"

As the stage-coach, occupied by the Eastern detective and the night-wrangler, rolled away, the Sheriff of Kremmling pulled his long mustache.

"I wonder now," he mused, "how am I ever goin' to get even with that cuss fer this Dick Flinn business?"

CARS AND LOCOMOTIVES BUILT IN 1909.

THE number of cars and locomotives built during the past year is but a little greater than the 1908 figures, in spite of the improvement in general business conditions during 1909, says the *Railway Age-Gazette*. However, it has really been but a few months since the railways came into the market with substantial inquiries; and deliveries on orders placed at the beginning of this movement did not begin until this fall.

Returns from 14 locomotive builders in the United States and Canada (estimating the output of two small plants), show a total of 2,887 engines. Of the 2,653 built in the United States, 2,362 were for domestic use and 291 for export. These figures include 16 electric and 119 compound locomotives. The Canadian engines, 234, were all for domestic service.

Comparisons for the last seventeen years are given in the following table:

Year.	No. built.	Year.	No. built.	Year.	No. built.
1893	2,011	1899	2,475	1905	*5,491
1894	695	1900	3,153	1906	*6,952
1895	1,101	1901	3,384	1907	*7,362
1896	1,175	1902	4,070	1908	*2,342
1897	1,251	1903	5,152	1909	*2,887
1898	1,875	1904	3,441		

During the past year 53 car-building companies in the United States and Canada built 96,419 cars, which is 23 per cent more than the number built in 1908. These figures include Subway and Elevated cars, but not street railway and interurban cars. It must be remembered also that the output of railway companies' shops is not included.

Of the cars built in the United States, 84,416 were freight-cars for domestic service, 2,435 freight for export, 2,599 passenger-cars for domestic service, and 150 passenger-cars for export.

Of the freight-cars, 63,763 were of steel, or had steel underframes; of the passenger-cars 1,650. Canada built 6,661 freight-cars for domestic service, 58 freight for export, 99 passenger-cars for domestic service, and one passenger-car for export.

In 1908, Canada built 8,598 freight-cars and 79 passenger-cars.

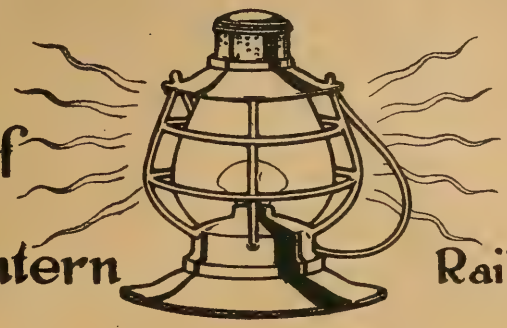
The following table shows the cars built during the past eleven years:

Year.	Freight.	Passenger.	Total.
1899	119,886	1,305	121,191
1900	115,631	1,636	117,267
1901	136,950	2,055	139,005
1902	162,599	1,948	164,547
1903	153,195	2,007	155,202
1904	60,806	2,144	62,950
1905	165,455	2,551	*168,006
1906	240,503	3,167	*243,670
1907	284,188	5,457	*289,645
1908	76,555	1,716	*78,271
1909	93,570	2,849	*96,419

* Includes Canadian output

WHAT'S THE ANSWER?

By the Light of the Lantern



Questions Answered for Railroad Men

ASK US!

WE like to be as useful to our readers as we can; but, because of the great popularity of this department, we are forced to impose certain restrictions. In future, we shall be compelled to limit its scope to the answering of questions of an informative, technical, or historical nature only. Letters concerning positions WILL NOT be answered in this department.

WHAT is the length of the snow-sheds on the Southern Pacific in Nevada?

(2) Describe the bridge-trestle, or fill, over Salt Lake, giving length, saving in miles, time, etc.—J. A. D., Bristol, Pennsylvania.

(1) There are forty miles of snow-sheds on the Southern Pacific, up through the Sierras. In these sheds are seventy-five million feet, or thereabouts, of lumber. Every year five million feet of lumber is used for repairs and renewals. The cost of the sheds, for lumber alone, is $30,000 per mile. It is said that, up to date, the total cost of installing and maintaining these indispensable structures has been $30,000,000.

(2) The Great Salt Lake "cut-off" begins at Ogden, Utah, and, after crossing the lake, follows the bed of another prehistoric lake to a junction with the old line at Lucin, Nevada. It was built to take the place of the long serpentine route between the same points, which passed around the north shore of the Great Salt Lake, and over Promontory Mountain, where, on May 10, 1869, the last spike was driven in the all-rail line from ocean to ocean.

From dry land to dry land the "cut-off" covers twenty miles of pile construction, and as an example of engineering and an illustration of ingenious and substantial construction there is nothing comparable with it anywhere. It was opened November 28, 1903, and took two years to build. It sweeps away 43.77 miles, eliminates 3,919 degrees of curvature, and 1,515 vertical feet of grade; cuts down the running time of the fastest train two hours, and through its practically gradeless route increases the tonnage movable per horse-power almost beyond power to calculate.

The figures referring to curvature and grade may be rendered clearer and more interesting by a little elaboration. Each degree of curvature represents the segment of a circle, and there are 360 degrees in a circle. Put these degrees of curvature together into circles, and it will be seen that between Ogden and Lucin there were 11.88 circles, and that every train of the old route not only covered the air-line distance, but ran around the 11.88 circles besides. The number of vertical feet disposed of was 1,515.

In order to overcome this grade the train, by the old way, was lifted above the roadbed of the "cut-off" to a height equal to 1,515 vertical feet. Calculate the weight of

a loaded car at 66,000 pounds; calculate that it takes one horse-power to raise 33,000 pounds vertically one foot per minute, and that, therefore, it would require two horse-power to raise the loaded car vertically the same distance per minute; multiply by the 1,515 feet of grade disposed of; multiply the car by the number of cars in the ordinary length of train; multiply the train by the number of trains represented in the vast yearly business of the road; add the aggregate of friction, and you will have an approximate idea of what the Great Salt Lake "cut-off" means in the economy of the road's operation. There are other figures equally interesting, and here they are in a nut-shell.

The road rubbed out was 146.68 miles long, the "cut-off" is 102.91 miles long. Twenty miles an hour was pretty good time on the old line, and never a train toiled over it without a monster helping engine at its head. By the new way, there are no helper engines, and now hours of running time are saved. It seems incredible, but it is true, nevertheless, that the cut-off, of 102.91 miles, is but 1,708 feet longer than an air-line, and this in a mountainous country.

WHAT is the best rule for the safe load of rails?—C. H. Middletown, New York.

Each ten pounds weight per yard of ordinary steel rail, properly supported by cross-ties (not less than 14 for 30-foot rail) is capable of sustaining a safe load per wheel of 3,000 pounds.

J. W. S., Scranton, Pennsylvania.—The signal engineers of the roads requested are as follows: Grand Trunk, W. H. Patton, Toronto, Ontario; Michigan Central, E. A. Everett, Detroit, Michigan; Union Pacific, J. C. Young, Omaha, Nebraska; Oregon Short Line, E. W. Newcomb, Ogden, Utah.

WHAT form of air-brake is in general use, high-speed or quick-action?

(2) Does the term "automatic" apply equally to the above?

(3) What kind of air-brake is used on trolley-cars?

(4) Is the Westinghouse brake used in Europe as much as in America?

(5) What other good company besides Westinghouse makes air-brakes?

(6) Can there ever be a thirty-hour train between New York and San Francisco, or an eight-hour train between New York and Chicago?

(7) How does an oil-burning locomotive work?

(8) Why is the rolling stock of European railways built different from ours?

(9) Do you think that electricity will take the place of steam?

(10) Will the monorail take the place of the two-track system?

(11) Where can I get a book naming the employees which make up a railroad?—C. F. E., New York City, New York.

(1-2) The high-speed, which embodies the quick-action, is in general use on passenger-trains; the quick-action on all trains. The term "automatic" applies to all air-brakes in present use for train control.

(3) Straight air-brakes, supplied by electric pump.

(4) No, the Eames Vacuum Brake is in general use in passenger service, at least in England, and to some extent in freight service.

(5) The New York Air-Brake Company.

(6) Not in the present stage of the development of steam-power, or in the conditions under which it is employed.

(7) The oil leads from the tender to a burner in the fire-box, and, emerging from the mouth of the burner, is vaporized with resultant violent combustion when ignited. The fire-wall, or arch, is arranged in the fire-box to delay the escape of the flames toward the boiler-tubes until they have swept over the top of the arch, thus allowing equal effect on all portions of the fire-box.

(8) Because the conditions, and especially the business procedure is along altogether different lines, a thorough analysis of which would be too long for this department. What Europeans have in their country serves their purpose admirably, although it would prove inadequate in this country. They have not found that either our rolling stock or methods are any improvement on what they use, because the latter have become adapted to their peculiar requirements.

(9-10) No, to both questions; at least, not in season to occasion any concern to those who operate the locomotive.

(11) We don't know of any. Past issues of the magazine containing the self-help feature have covered thoroughly the various departments of the railroad, but there has, of course, been no compilation of all employees in a single article.

WHAT are the qualifications and duties of a train auditor, and what does it pay?—L. S., Verona, Mississippi.

They are called collectors in the East, the designation you mention applying largely in

the West and Middle West. Their duties are to collect the tickets, and look after the transportation generally, in order that the conductor will be left unhampered to run his train. As a rule, however, you will not find them on a train unless the travel is so heavy that the conductor cannot "work" it properly between stopping points. For instance, on the heavy trains of the New Haven road, out of New York, it is necessary to have a collector to assist the conductor until New Haven is reached, after which he goes with his train alone to Boston. The same thing applies on many Erie trains out of Jersey City, the conductor being unable to get all the tickets unaided before the first stop. We are in doubt as to what compensation they do receive in the West, but in this section the pay is about $75 or $85 a month. They are promoted from baggage-masters or trainmen.

J. S. N., Wichita Falls, Texas.—Fifty-five and one-half miles in fifty minutes from Atlantic City to Camden, New Jersey, is the fastest regular scheduled short-distance train in this country, and it is made every day in the year by the Reading Railroad. We can't find any record of such time on the road you mention, but if correct, it is on a par with the above.

HOW much horse-power, or fraction thereof, will a miniature locomotive develop that has a boiler of 12,000 cubic inches capacity, or is 4 x 1½ feet? The two cylinders are 6 x 4 inches, and the two driving-wheels are 14 inches in diameter. The boiler is built to hold 150 pounds pressure. Please tell me what you think of such dimensions, and state improvements that could be made.—R. W. B., Newmarket, New Jersey.

The dimensions which you give are all wrong for the best results. Presuming that your figures for the size of the cylinder should be reversed, viz.: 4 x 6, instead of 6 x 4 inches, then the stroke is too long; the driving-wheels are too high, and the diameter of the boiler is disproportionately large to its length. Still in order to give the information asked regarding horse-power, based on your figures, it is necessary to revert to the following formula:

$$\frac{C^2 \times S \times P \times (M.P.H.)}{D \times 375} = \text{Horse-power, in which}$$

C is diameter of cylinder in inches.
S, length of stroke in inches.
P, mean effective pressure at given speed.
M. P. H., miles per hour.
D, diameter of driving-wheel in inches.

Assuming "M. P. H." to represent ten miles per hour, at which speed these models are usually run; and for "P," 127 pounds pressure, on the common rule of 85 per cent of boiler pressure for mean effective pressure, and substituting these values in the formula we have:

$$\frac{36 \times 4 \times 127 \times 10}{14 \times 375} = \text{About 35 horse-power—an absurdity.}$$

Locomotive design must be gingerly approached, whether in models or actual practise, and we think that the best thing you can do is to correspond with some of the firms who manufacture parts for model locomotives, and they will set you right regarding the proper dimensions. You might take the matter up with the Sipp Electric & Machine Company, Paterson, New Jersey, who deal extensively in working locomotive models.

R. G., Mount Vernon, New York.—It would be impossible in the space limitations imposed through the crowded nature of this department to list all of the railroad systems in this country and Canada, especially as you also desire the component roads of each system or group. Would suggest that you refer this to the editor of the *Railroad-Age Gazette*, New York City, who may be able to send you an issue of that journal wherein the information you want has been compiled.

TO whom will I write for a position as fireman on the New York division of the Pennsylvania Railroad?

(2) Has the Wabash an engine with a cylinder larger than others of the simple type?

(3) Has the Santa Fe an engine with four cylinders, and both pistons working together on the same cross-head?—A. J. E.

(1) F. A. Smock, M. M., Meadows, New Jersey, can start your application on the right track.

(2) We don't know exactly what you mean. The cylinders of their compound engines, if they have any, are, of course, of a larger diameter for the low-pressure than for the high-pressure, but if we are to view your question that the Wabash has a simple engine with the largest cylinder diameter, irrespective of compound practise, the answer is, no. The New York, Susquehanna and Western Railroad's No. 140, of the simple type, has cylinders 28 inches in diameter and 32 inches stroke. This is the largest diameter for that type of which we

have any record. This engine is at present in helping service out of Avoca, Pennsylvania, and leased to the Erie Railroad.

(3) The Santa Fe, up to a recent period, at least, had several engines of the type indicated. They represent the original Vauclain four-cylinder compound, arranged with the high and low pressure cylinders one above the other, and both piston-rods connected to the same cross-head, using one set of guide-bars. There are many of these remaining on various roads throughout the country which have not been changed to simple engines.

DO you know of a railroad under construction from Salt Lake City, Utah, to San Francisco, known as the Western Pacific? Where are the general offices located, and who are the superintendents with authority over the portion running into California?—G. H. T., Texuco, New Mexico.

No operating department has as yet been organized on the Western Pacific. The office of the president, E. T. Jeffrey, is at 195 Broadway, New York. The construction work is being actively pushed under the following division engineers: Charles Harlowe, Cobre, Nevada; T. J. Wyche, Salt Lake City, Utah; J. Q. Jamieson, Clio, California; Emery Oliver, Oroville, California, and J. T. Williams, San Francisco.

A. R., Sheridan, Wyoming.—You are somewhat mixed in regard to the telephone system of despatching. The scheme provides for operators on the line to receive the orders, the same as by telegraph, and they are not handled from the wire by the engineers or conductors except under exceptional conditions. The nine-hour law, so-called, is intended to limit the hours of operators, and not road crews, who come under the sixteen-hour law. If circumstances should arise making it necessary for trainmen to use the telephone after being on duty nine hours, it would not appear that any law is violated, as they are sixteen-hour men. At all events, there are provisions in each law covering emergencies.

WHAT are "31" and "19" orders?

(2) Can a man be an engineer if he wears glasses?

(3) When No. 2117 of the Baltimore and Ohio was built was it the largest engine in the world at that time?

(4) Where is the Pittsburgh and Moon Run Division of the P. and L. E. R. R.?—F. B. S., Monessen, Pennsylvania.

(1) They are the two forms adopted by the Standard Code for the transmission of train orders by telegraph.

(2) It would depend entirely on the visual defect for which the glasses were worn. It is not likely that a fireman would be promoted under such conditions, but instances can be remembered where old engineers have been allowed to assume them and kept at work.

(3) This engine was built in 1906, and has a total weight of 229,000 pounds. At that time it was exceeded in weight by other Pacific type engines as follows: Erie, No. 2511, weight 230,500; Northern Pacific, No. 2175, weight 240,000; Atchison, Topeka and Santa Fe, No. 1800, weight 248,200; and Lake Shore and Michigan Southern, No. 4724, weight 233,000. You will note that the examples of heavier engines are confined to the type represented by Baltimore and Ohio 2117. There were many freight-engines at that time on various roads with a much greater total weight than hers.

(4) It appears as an independent railroad between the points mentioned: 5 miles long, standard gage, 2 locomotives, and 778 cars. M. H. Taylor, Pittsburgh, Pennsylvania, is president.

E. M. B., Barrackville, West Virginia.—The officials of the Chesapeake and Ohio Railway, with headquarters at Huntington, West Virginia, are: C. P. Snow, division superintendent; H. R. McLaughlin and E. E. Winters, train-masters; F. S. Rockwell, chief train despatcher; C. H. Terrell, master mechanic; C. B. Harwood, foreman painter; R. S. Rogers, foreman car department; R. W. Turney, foreman machine department; T. J. Bullock, road foreman of engines; M. I. Forbes, division engineer, and T. W. King, supervisor of bridges and buildings.

T. A. P., Cleveland, Ohio.—(1) A freight-conductor certainly occupies a higher plane in the service than a passenger-brakeman, or trainman, as they now designate them.

(2) Brakemen must begin on freight, on the majority of roads, otherwise they cannot reach the position of conductor, in either freight or passenger service. If they start as passenger trainmen they may in time become collectors or train auditors, but, as a rule, the only road to the conductor's berth lies through the freight service.

(3) Age requirements vary on different roads. Twenty-one years is generally regarded as the minimum for employment.

(4) It is impossible to even give an approximate average regarding how long a

man must brake before promotion. The latter is very slow, at least in the eastern section, and it might be five or seven years, if not longer.

(5) The average pay of brakemen may be said to be $2.25 per day, or one hundred miles, and for conductors $3.50, but these quotations are really of little value, as the scale shifts tremendously, dependent on the section of the country and the strength of the existing agreements.

W. T. B., Knoxville, Tennessee.—The way you picture the occurrence seems to put the blame for the train getting by squarely on the day-man, and that is the way it looks at this long range. But it is always extremely hazardous to even venture an opinion concerning responsibility for error unless in full possession of the material gathered during the investigation.

WHAT is the average heat which is attained in a hot box? Is there any device on the market to eliminate the trouble?—H. S., Detroit, Michigan.

There is no strictly reliable data for this temperature, as it would be largely dependent on the composition of the soft metal which forms the liner for the brass proper, and on which the journal runs. The metal ordinarily employed for car brasses is specially hard babbitt.

This will start to run, or fuse, at about 400 degrees F. This temperature is, of course, abnormally high for a hot box, and would imply a melted-out brass. The term, as you no doubt are aware, is freely applied, and may mean only the packing on fire, with the bearing relatively cool. In regard to special devices to minimize hot-box troubles, these are confined to slight differences in the interior of the journal-box, which encloses the journal of the axle, the journal bearing and key, and which holds the packing for lubricating the journal.

That any one of these departures is any more serviceable in the long run than the American Railway Master Mechanics Association journal-box, which is in general use, is largely speculative. The idea on which these patented devices is based, is simply to keep the oil-soaked packing in more uniform contact with where it will do the most good.

The best safeguard is, of course, to give the boxes the necessary attention, which they fail to receive more than any single item about the railroad, viz.: See that none of the lids have been lost, allowing dirt to enter; that they contain sufficient packing to take care of them, and that the soft liner mentioned is not worn down to a point where the brass itself will run on the journal without the interposition of an anti-friction metal. Ninety per cent, we believe, of hot-box troubles arise from lack of care, as the existing appliances are thoroughly adequate.

L. H. W., Rockport, Illinois.—For books on air-brakes, address either *Railway and Locomotive Engineering*, or *Railroad Age-Gazette*, both New York, N. Y.

WOULD it affect the lead of the valve of an engine, if one would bend the eccentric-blade either up or down? I mean would it affect the lead in the same way as turning the eccentric either ahead or back on the axle, or hooking up or letting down the reverse lever?

(2) How can I calculate the horse-power of a boiler by knowing the heating and grate surface?

(3) Is the Valentine monorail system under construction, and where?

(4) Is the air line electric railway between New York and Chicago completed?

(5) What is the average price of a 200,000 pounds locomotive?—W. M., Natron, Oregon.

(1) Bending the eccentric-blade, as suggested, would have no effect on the total value of the lead; that is, the sum of the omission-port opening at each end of the stroke. It would simply serve to distort the motion by rendering unequal the leads on either side of the valve, and the exhaust would likely beat "out of square."

The maximum travel of the valve is fixed by the throw of the eccentric, which is permanently keyed to the shaft, and the proper length of the eccentric-blade is that which will permit the valve to move an equal distance on either side of an imaginary line drawn through the center of the valve-seat. Hence the length of the eccentric-blades should be regarded as really permanent.

They are never changed except to correct inequalities in the valve travel mentioned. Moving the reverse-lever on the quadrant simply lengthens or shortens the valve travel on the seat, without interfering with the equality of the travel, provided the eccentric-blades are of the proper length.

(2) You cannot calculate the horse-power of a boiler from the grate surface only. You might allow ten square feet of the total heating surface to each horse-power, which is a rough-and-ready rule.

(3) Have no record of the system named.

(4) The New York and Chicago Air-Line Railway is not completed as originally proposed, but this is the extent of our knowl-

edge concerning it. We think that the line at present extends from La Porte, Indiana, to the outskirts of Chicago, but of this even we are in doubt.

(5) This year, from present indications, the average price of a locomotive embodying the total weight mentioned will be about $18,000, provided, of course, that there is no radical departure from existing practise, and that not less than ten are contracted for. There is no reliable estimate for a single locomotive; twenty-five per cent more, at all events.

S. J. N., Brooklyn, New York.—All railroads demand an eye and hearing test for road men entering the service, although on several this is confined to the actual semaphores, lights, and flags used in the operation of the road.

G. C. H., Brooklyn, New York.—A prospective fireman should be twenty-one years old. The time he will be called upon to fire before promotion may range from four to ten years. They pass from the extra board to regular freight service and thence to passenger. On some roads they return to firing freight for the thirty days prior to their final examinations. The pay ranges from $2.25 to $3 per hundred miles, dependent on locality, agreements, and service conditions.

C. H. R., Albany, New York.—The list of chief train-despatchers on lines west of the Mississippi River, even if available, is far too long for our columns.

G. H. D., Wayne, Pennsylvania.—After a careful review of late construction we cannot locate any Mallet articulated compound locomotives built for the Chicago and Alton Railroad. Engines of this type are particularly adapted for hauls over heavy grades, such as in mountain railroading, or in helping service. They have not as yet been employed, to any extent, in regular service on low-grade roads.

C. K. D., Elkins, West Virginia.—We think that the company you mention does hold the necessary patents giving the exclusive rights to the peculiarity in air-pump construction which reverses the position of the cylinders as in the Westinghouse practise. This, however, could be determined through direct correspondence with them, and this we would advise you to do. All the points which you make are very good, and represent, in the main, what has long been our personal idea of the proper arrangement, although you are the first to bring them to our attention. We regret that lack of space forbids reproduction of your interesting letter this month, but it is held with that end in view for the future.

H. A. J., Lowell, Massachusetts.—From Boston to New York, either the New York, New Haven and Hartford, or the Boston and Albany. The fare is $4.65 over each road. The Baltimore and Ohio, out of New York, seems to cover the other points better, as its main line passes through Washington, D. C., and there are liberal stop-over privileges, but we can't say about stop-overs being allowed in the intermediate points, Philadelphia and Baltimore. You could continue over this same road from Washington to Chicago, which latter is usually regarded as the starting-point for a San Francisco trip. The fare from New York to Chicago is about $18, and $50 should cover the remainder of the journey.

J. S., Austin, New Mexico.—It does not appear particularly that anything would be gained by an indestructible seal for freight-car doors. The idea of the existing seal, as you no doubt understand, is to indicate that the car-door has been opened, and not to oppose other than an ethical obstacle to such entrance. If the seal of which you write can be opened without destroying it, it would be the natural inference that it could be restored to its primary condition as readily after the car had been entered. The cost of the existing car-seal is insignificant, and any new device would not impress in that direction. In regard to improvements in mail cranes, best address the chief or division engineer of some large railroad.

ASSUME a one-horse-power engine, with 200 pounds of steam, and another of two-horse-power, of the same size, but with one hundred pounds of steam; which engine will do the most work? —H. M. W., Milwaukee, Wisconsin.

Your question is much involved, and we doubt if the answer will be exactly what you are looking for. The confusing feature is that you have already defined the engines as one and two horse-power, respectively. Then, of course, the second will do twice the work of the first, but, if we are to conclude that the second engine only develops two horse-power with two hundred pounds

of steam, it is only at half its capacity at one hundred pounds, and both engines are therefore equal. The formula for calculating horse-power is pressure (mean effective pressure for stroke), multiplied by length of stroke in feet, multiplied by area of piston in square inches, multiplied by number of working strokes per minute, and the whole divided by 33,000, the result equaling horse-power. You will thus note that the pressure is the controlling factor in the formula, as will be readily evinced by working it out for a number of pressures in connection with the same engine. If this does not explain, let us hear from you again.

D. R. S., Altoona, Pennsylvania.—As we have frequently intimated in this department, the dimensions which we receive from the locomotive builders covering their recent types of construction do not, unless in exceptional cases, give the total length of locomotives, information being confined to the length of the rigid wheel-base; the total wheel-base of the engine, and the total wheel-base of both engine and tender. We correctly quoted in the February number the total wheel-base of Southern Pacific No. 4000, engine and tender, at eighty-three feet six inches, as the longest recorded. No doubt your figures, viz., one hundred and eleven feet ten and one-half inches, for the corresponding dimensions of Santa Fe Nos. 1700 and 1701 is correct, but this does not imply that No. 4000 is not very much longer than eighty-three feet six inches, when the overhang at each end is reckoned with and added. As a rule, the length over all, from the nose of the pilot to the extreme rear portion of the tender frame is difficult to estimate, unless, of course, access may be had to the elevation prints of engine and tender. The total wheel-base is an important dimension, to know whether existing turntables will take care of the engine, but the total length is relatively unimportant.

E. B. G., Charleston, South Carolina.—The only absolute protection we know of against the robbery of car brasses is to police the freight yards and watch the cars. They are bold enough these days to jack them up and haul the brasses out. There are no recent improvements in journal-boxes.

I WISH to ask whether the "General," which you mention in the February "Light of the Lantern," as on exhibition at the Union Depot, Chattanooga, Tennessee, is the actual locomotive run by Andrews? We know that a photograph was taken in 1864, of the engine actually seized, by a photographer in the Northern army, and is now in the government archives. This shows a type of locomotive made during the late fifties, whereas the "General" resembles a locomotive of days subsequent to the Civil War. Moreover, the name of the locomotive photographed in 1864 is said to have been "Hero."—I. S., Fishkill Landing, New York.

We have never heard a question raised regarding the authenticity of this prized relic. The editor of this department was on one occasion roundhouse foreman on the Southern Railway, with Chattanooga at one end of his jurisdiction, and is quite familiar with the old engine and its history. Certainly if any rumor of doubt were afloat, he occupied a position of such proximity that it could never have escaped him. We are glad to reproduce your letter, as, if there is anything in the point, this is the surest way to bring it to light.

T. P. W., South Framingham, Massachusetts.—(1) Firemen on all roads have to pass an eye and hearing examination, and, on some, the Baltimore and Ohio, for instance, a physical examination as well. To be able to read and write will serve for mental qualifications.

(2) No. Go on the road and learn how to fire.

(3) Twenty-one years is now generally regarded as the minimum age for an applicant.

IS it proper for an engineer finding a distant signal-light out at an interlocking plant to come to a full stop? The distant signal on this road is used as a caution signal only, and in no position indicates stop.—F. A. M., Emporia, Kansas.

Unless the night is sufficiently clear to allow the position of the blade to be seen, a stop is in order. If passed at full speed in the danger position, it would fail in its mission as a cautionary signal on the home. You no doubt have local rules covering this condition, which necessarily must be observed, independent of any opinion here. These lights at times become extinguished, and some roads insist that a full stop be made and the position of the semaphore be closely scrutinized before proceeding. It is then required that an electric signal failure report be turned in by the engineer at the first telegraph office. The best advice is always to err on the safe side, especially in a matter of such importance.

WITHOUT LIGHTS.

BY J. AUBREY TYSON,

Author of "The Man of Straw," "A Railway Pizarro," "The Man Who Lost Himself," etc.

A Man Runs Blindfolded On a Strange Track and Against the Semaphores.

SYNOPSIS OF PREVIOUS CHAPTERS.

FRED ERSKINE has received a letter from the general superintendent of the Chicago, St. Louis and Western Railroad—Andrew Warrington—who was formerly fireman on his father's engine. He has helped put Fred through college, and, upon his graduation, writes him to call at his office in Chicago. Upon arriving there, Fred finds Warrington in great trouble. It appears that bonds to the extent of $500,000 have been stolen from the safe of the company, and the only ones knowing the combination are the treasurer, Warrington's son, who has been lately speculating wildly, and the general superintendent, himself. Warrington, the father, has had some differences with Henry Burbridge, the president of the company. The directors, siding with Warrington, were disposed to compel Burbridge to resign, and elect Warrington his successor. On account of the gambling and speculating of his son, Warrington is compelled to suspect him, but at the same time imagines it may be a plot of Burbridge's and the treasurer, Stanwood, to implicate his son, and thereby discredit him, causing him to resign from the company. An Englishman, Montresor, who is on friendly terms with Warrington's wife and daughter, is supposed to know more than any one about the disappearance of the bonds. The proposition made to Fred is that he is to trace the bonds, find out who was instrumental in their disappearance, working independently of the detectives already engaged, and without communicating in any way with Mr. Warrington during the time, return the bonds within thirty days. It is a stupendous task. Mr. Warrington requests him to call that evening and escort his daughter, Louise, to the opera, as he has reasons to believe that she is going to meet Montresor, and he wants Fred to be in a position to know all the details. Instead of going to the opera, Louise has secretly ordered the driver to go to Lincoln Park. Here Louise accuses Fred of being a spy, and tries to escape from the carriage. Fred follows her, and is accosted by a man who wishes to speak to him privately. He follows the man, and, while speaking to him, receives a blow on the head that knocks him senseless.

CHAPTER V.

Side-Tracked.

SEVERAL minutes passed before a realization of his situation began to dawn upon Erskine's mind; then he feebly raised himself to a sitting position and looked around him. He saw that he was alone. The carriage that had brought him and Miss Warrington to this spot had disappeared, as had also Montresor and the unseen man who had struck him down just after the Englishman had assaulted him.

With a low-muttered oath, the Altoona man rose from the ground. Passing a hand over his hair, he found that blood was issuing from a scalp wound at the back of his head.

"Well, the old man was right enough," he muttered. "Montresor's trail and mine have crossed. My eyes were closed, however, and he got me foul, and now Andrew Warrington's enemy is mine. Until I get this fellow Montresor on his back, his trail and mine are one."

Retreating farther into the shadow of the clump of trees, he seated himself on a rock and, leaning back, he clasped his hands over one of his knees.

Began in the March Railroad Man's Magazine. Single copies, 10 cents.

"Now, where do I begin?" he mused.

Frederick Erskine came of good old fighting stock, and the most dangerous fighter always is the one who keeps his head. Though anger still smoldered dully in his eyes, the young man made a determined effort to review the situation calmly. This was difficult at first, for it was only gradually that he recovered from the effect of the blow that had rendered him unconscious.

He asked himself how it had come to pass that Montresor so soon had recognized him as an enemy. Then he remembered that it had been Louise who had first revealed the fact that his relations with her father were known to others. How had she come to believe that he was a spy?

In a short time the situation grew clearer to him. Louise had entered the library while Warrington was in the act of giving him the photograph of Montresor, and this fact doubtless had excited suspicions which she had communicated to Montresor, either by telephone or a special messenger.

This theory was, in some degree, verified by the manner in which Montresor had demanded the surrender of the photograph. With a more rapidly beating heart, the young man thrust a hand into the inner pocket of his coat. The photograph was gone, but this was not all he had lost.

He had been robbed of the envelope containing the three thousand dollars which had been given to him by Warrington!

Bewildered, baffled, and thoroughly unstrung by the suddenness with which this series of unfortunate incidents had occurred, Erskine rose weakly and looked ahead of him with unseeing eyes. For several minutes he stood motionless; then, with shuffling, stumbling steps, he issued from the clump of trees and followed the course of the roadway.

He had proceeded only a few paces when he came to a drinking-fountain for horses. There, with shaking hands, he washed his wound; then, after drying it with his handkerchief, he continued on in the direction of the lake front.

Frederick Erskine was young, and this was the first time in his life that he had come face to face with a heavy responsibility. He knew now that, young as he was, the turning-point of his whole career was reached. Though he loathed the task that had been forced upon him, it was impossible for him to shirk it.

For years he and his father had been under obligations to Andrew Warrington, and now Warrington, in distress, had appealed to him for aid. He had undertaken to recover the bonds, and, hopeless as seemed the task, he must do so. Besides all this, he had an account of his own to settle with Charles Montresor.

But where was Montresor to be found? It now occurred to him that, in view of his loss of the three thousand dollars which had been given to him by Warrington, he would have to draw on his own funds for several days at least. In another week, perhaps, he might achieve something which would enable him to confess his loss to Warrington with a better grace.

As this thought came to him, he halted suddenly. The extent of his own funds consisted of little more than a hundred dollars, which he had carried in a card-case in one of the pockets of his vest. To this pocket he raised his hand instinctively.

This, too, had been taken from him while he lay unconscious! In a pocket of his trousers were several silver coins, however, and, clutching these, he resumed his way with quickened steps.

"Fair means or foul!" he muttered, repeating Warrington's injunction. "Well, the first blow in the fight was struck by Montresor, and it was foul. More than this, the man already has proved himself to be a thief. If it takes a rogue to catch a rogue, I'll learn his game and play it. I have my orders, and I'm going to take the old man at his word. By fair means or by foul, I'm going to land those bonds—and Montresor!"

Walking on now with steady steps, Erskine began to formulate a plan of action. It was doubtful whether he could find Montresor again without dogging the steps of Louise Warrington. Well, he would do this, then. Beautiful as she was, she had lost his respect, and had inspired his resentment. From this moment on he would work only in the interests of her father. But, in order to do this, he would require funds. He must write to

Warrington, and tell him of the misadventure that had befallen him.

Upon leaving the park, the young man boarded a car which took him to his hotel. Arriving there, he wrote a letter to Andrew Warrington, describing briefly what had happened. This he despatched by a messenger to Warrington's residence. In an hour he had his answer.

From an envelope Erskine drew a sheet of paper, in which were enclosed ten one-hundred-dollar bank-notes. On the sheet of paper was written the following note:

> DEAR BELLEVILLE:
>
> Enclosed herewith find $1,000. When you require more, inform me of the fact at once, but spare me all accounts of your troubles. I desire no explanations. Get to work and keep your confidences to yourself. Burn this note at once.

The note was unsigned. Erskine applied a lighted match to it, and then dropped it into an ash-receiver. When the paper was consumed, he left the room and summoned a cab.

"Lake Shore Drive," he said as he prepared to step into the vehicle.

"What number?" asked the driver.

"Put me down at the beginning of the drive," directed Erskine. "But get there as quickly as you can."

When the Lake Shore Drive was reached, Erskine directed the driver to turn into a street about half a block south of the Warrington residence and there await his coming; then, when the cab moved off, he walked deliberately along by the sea-wall until he arrived opposite the street in which he saw the cab drawn up at the spot which he had indicated.

Assured that the cabman was acting in accordance with his instructions, Erskine retraced his steps for a little distance; then, glancing around to satisfy himself that he was unobserved, he climbed over the sea-wall and dropped down to the beach.

As has been said, the night was moonless, and the stars which, before, had been visible, now were obscured from view by a mist which, for the last half-hour, had been drifting over the lake and settling down over the city. A faint breeze was stirring, and this was charged with the dampness of the great lake over which it had swept.

Finding a large boulder near him, Erskine was about to seat himself upon it, and was in the act of drawing his cigar-case from his pocket when he heard, in the distance, the deep, sonorous stroke of a bell. This stroke was followed by others, and when he had counted eleven they ceased.

"Eleven o'clock," he mused. "If she has not already returned, she—"

He started suddenly as he became conscious of the fact that in the air about him was the odor of tobacco-smoke. He had been gazing abstractedly into the darkness that lay over the lake, but now he turned abruptly to his left. There he saw something that was moving slowly toward him.

It was the faint glow of a lighted cigar!

CHAPTER VI.

The Man Behind the Cigar.

"ANOTHER signal, eh?" Erskine muttered. "Shall I run it, or slow down?"

To his ears now came the soft, measured crunching of gravel, and the sound warned him that, in the darkness, it would be difficult for him to make a noiseless retreat. He decided, therefore, to remain where he was.

The cigar which Erskine already had taken from his case was between his teeth. He drew a match across the boulder on which he was seated, and raised it to the weed.

The sound of crunching gravel ceased, and the glow of the cigar became stationary. Keeping an eye over his left shoulder, Erskine lighted his own cigar and waited.

"Damp evening," the young man said.

There was no reply, but a moment later the gravel crunched again, and the glowing tip of the cigar drew nearer.

"Who the deuce are you?" growled the stranger.

Erskine hesitated. The voice was heavier than Montresor's, and he wondered if it was that of the man who had struck him after he had received the blow from the Englishman.

"Well, it's a little dark for the exchange of cards just now, I'm afraid," he said.

Again the stranger halted. "If you're

one of them I'm takin' you for, I guess you're pretty much at home in dark places," the newcomer retorted.

"Indeed!" Erskine exclaimed. "Would it be too much for me to ask who it is that you take me to be?"

"Oh, one of Montresor's tribe, I suppose," replied the other surlily.

"Then you are not a friend of Montresor's, I take it," said Erskine, puffing thoughtfully at his cigar.

With a muttered curse, the stranger slouched slowly past Erskine, who, watching him warily, retained his seat on the boulder.

"Don't be in a hurry," the young man protested, as the other was in the act of moving away. The stranger halted.

"What has caused you to think I am a friend of Montresor's?" Erskine asked.

"Well, you know him, don't ye?" asked the man, who spoke in the tone of one who expected an affirmative answer.

For a moment Erskine hesitated. Was this man an enemy of the Englishman's, or was he one of his confederates? If he was an enemy, it might be possible to use him to advantage. If he was a confederate, Erskine wanted to see him in the light. If he were not dissembling, it was plain that he had some grievance against Montresor, and that he had some reason to suspect that Montresor or his friends had some object in lurking in the vicinity of the Warrington house.

"I met Montresor for the first time, to-night," Erskine answered quietly. "The meeting was quite accidental, on my part, however, and I will frankly confess that it was not altogether to my liking. From the way you have spoken of him, I should judge that you know rather more of him than I do.

"If you have a grudge against him, I'm in a mood to help you to get even. If you can persuade me that he really isn't a bad fellow, why, then, perhaps—"

"You're in a mood to help me to get even, hey?" muttered the stranger thoughtfully. "Well, I hadn't thought anything about tryin' to get even, and it wouldn't do me no good, as far as I can see. Snake-killin' ain't in my line when there's better business to be done. What's Montresor done to you?"

"Oh, he and one of his friends knocked me out and robbed me of a tidy bunch of money—that's all," Erskine answered carelessly.

"Robbed ye of a tidy bunch of money!" exclaimed the stranger, and there was a note of incredulity in his voice. "I guess you're just a little bit off on that, ain't ye, mister? Montresor is about as rank a scoundrel as ever wore the devil's brand, but highway robbery—well, I reckon he'll sort of keep above that for a while—if he can. Where did it happen?"

"In Lincoln Park."

"When was it, mister?"

"To-night."

The stranger drew nearer Erskine, as he asked: "You was walkin' through the park?"

"I had been riding in a carriage, but I had a disagreement with the person with whom I had been sitting, and I got out. As the carriage moved away, Montresor and a companion attacked me, and did me up. When I recovered consciousness my money was gone."

"The deuce it was!" the stranger muttered; then, after a pause, he added: "Well, mister, you ain't the only one Montresor robbed to-night."

"What do you mean?" demanded Erskine, vainly striving to see the outlines of the other's face in the darkness.

"I mean he robbed me of my job," the stranger answered sullenly.

"Indeed! What kind of a job was that?"

"Until two hours ago I was coachman for Mr. Warrington."

Erskine started. "You were the coachman of Andrew Warrington?" he exclaimed.

"Yes, sir," sighed the man.

Erskine rose slowly from the boulder on which he had been sitting. "Then you drove the carriage from which I stepped only a moment before Montresor assaulted me," he said.

"Hey! What do you mean by that?" the stranger muttered.

"I mean that the carriage from which I stepped was Mr. Andrew Warrington's."

"There ain't no carriage or horse of Mr. Warrington's left his place to-night."

"Come, come, my man—you're wrong. At half past seven—"

"At half past seven o'clock to-night Mr. Warrington's carriage, with me on the box, was in front of the house, waitin' to take Miss Warrington to the Auditorium; but Miss Warrington weren't there. She'd gone off in another rig what drove up before, and then— But, Lord love us, mister—you ain't the gentleman—the gentleman Mr. Warrington said went with her instead of him! It weren't Miss Warrington you had that disagreement with before you left that carriage!"

"Yes," Erskine answered shortly.

"Where is she now?" asked the stranger in a voice that shook a little.

"She drove off while I was being attacked by Montresor."

"How did you know it was Montresor, sir?"

"I had his picture in my pocket. But now let me know a little more of yourself. You have been discharged by Mr. Warrington, you say?"

"Yes, sir—after servin' him for twelve years."

"Why did he discharge you?"

"Because I had been takin' Miss Warrington's orders too faithful—drivin' her to houses of Montresor's friends, without tellin' Mr. Warrington afterward, and sometimes takin' messages from her to Montresor."

"Where did you deliver those messages to Montresor?"

"Sometimes he or some of his friends would wait for them here."

"Do you know where he lives?"

"No, sir. He's too foxy to let any one know that. I don't believe that even Miss Warrington knows where Montresor lives."

There was a pause; then Erskine asked: "Miss Warrington seems to be pretty fond of this fellow Montresor, does she not?"

"Why, I can't say much as to that, sir," returned the other doubtfully. "She meets him pretty often, and she sends him letters; but, somehow, when they are together she's as cold as ice to him, and he's the only one I ever saw her snappish to. She's a fine young lady, sir, and what use she could find fer a feller like Montresor I never could quite figure out." He paused; then, speaking abstractedly, he added: "There's something queer about the thing, and no mistake, sir—but there's something that makes me think that Miss Warrington has little likin' for that sneakin' Englishman."

For a minute neither spoke. Erskine was the first to break the silence.

"From the way you have spoken, I should judge that you were well disposed to Miss Warrington," he said.

"I'd fight a dozen husky chaps at once at a single word from her, sir," replied the former coachman; then, after a pause, he growled: "And if I didn't lick 'em they'd have to take me away in an undertaker's wagon, for I'd die without a whimper if I thought I was savin' her from enemies."

"What's your name, my friend?" Erskine asked.

"Barney McGrane, sir."

"What were your wages while you were working for Mr. Warrington?"

"Forty dollars a month."

"I will give you fifty."

"What to do, sir?"

"To help me land this infernal scoundrel, Montresor."

McGrane hesitated. "Perhaps you are a detective," he said doubtfully.

"Not a professional detective; but it is my purpose to do a little detective work on my own account for the next two or three weeks, and Montresor is the man I am after."

"You are going to get back your money if you can?"

"No. I'm afraid the three thousand will have to go by the board. Montresor has got away with a far bigger sum than that—a lot of bonds that belong to a friend of mine. Those are what I am seeking now, and I think that you can aid me in my effort to recover them. Incidentally, I think that between us we will be able to get Miss Warrington out of the clutches of Montresor; for it seems clear enough that he has some sort of hold over her. Will you help me?"

"Well, I don't know, sir," McGrane replied doubtfully. "How long have you known Miss Warrington?"

"I met her for the first time to-night."

"And Mr. Warrington knew that you were going with her to the Auditorium," said McGrane thoughtfully.

"Yes. I have known Mr. Warrington for several years."

"Well, that's good enough for me,"

McGrane replied. "Mr. Warrington wouldn't have let her go off with you if he didn't think you was all right. But what was it that you and Miss Warrington disagreed about?"

"Montresor."

"Then, she was going to meet him in the park. That's the reason she had that other rig call for her before I had time to get around."

"It looks like it, Barney."

"I'm with you, sir. When do you want me to begin?"

"Right now."

"What am I to do?"

"You are to follow implicitly all instructions that I may give you. Moreover, as I am pledged to secrecy in this affair, you are to ask me for no explanations other than those which may be necessary to enable us to work in harmony with one another. Will you agree to this?"

"Yes, sir."

"Let us shake hands on it, then."

As their hands met in the darkness, McGrane started and drew back suddenly.

"Get your heel on that cigar," he whispered.

"What is it?" Erskine asked as he dropped his lighted cigar to the ground and placed his foot upon it.

"Hark!"

Then the young railroad man heard it, too—the low-speaking voice of an advancing man!

"It's some of the Montresor crowd," whispered McGrane, as he laid a hand on one of the arms of his companion. "This is one of their meeting-places. Let's move on a bit until they stop."

CHAPTER VII.

On the Shoals of Indecision.

WITH a more rapidly beating pulse, Erskine turned to the left, and, followed by his companion, he moved cautiously along the beach in the same direction in which the unseen newcomers were proceeding. At length he halted abruptly as the hand of McGrane clutched his sleeve.

"Wait!" whispered McGrane. "They have stopped where we were standing."

As Erskine listened, he found that the sounds of voices and footsteps had suddenly ceased.

"Want to hear what they're sayin'?" asked McGrane, after a pause.

"Yes. Let's get a little closer to them," Erskine answered.

"Where the devil's the boat?" a voice only a few paces distant asked querulously.

Erskine and McGrane instinctively sank to their hands and knees. McGrane tapped his companion twice on the shoulder.

"Yes—yes!" Erskine whispered.

Both had recognized the voice of Montresor.

"I'm afraid that you're going a bit too far this time, Monty," growled another voice.

"Have to do it, Slevin," Montresor replied in a tone of gloomy conviction. "The fool's streak of yellow is growing so strong that every hour finds him more dangerous. It's ten to one that he will blow the whole thing to the old man before the night is over. The girl half suspects the truth already, and if she learns it all there will be Hades to pay."

"But she played into your hands all right to-night, Monty," protested the other in shaking accents.

"She had to," Montresor retorted savagely. "She failed to meet me afterward, however, and for the last three days it has looked to me as if she had the bit between her teeth. The way she gave the old man the slip to-night is going to bring them into another clash that is likely to be the worst she has had with him."

"Well, she weathered all the others," Slevin said.

"In a way she did, but it seems to me that he already has her on the run. It's clear enough that she let something out of the bag. If she hasn't, how does it happen that the old man has hit my trail? How did it happen that that fool sleuth had my photograph in his pocket? Why did the old man send him off with her? In some manner or other he got wind of the fact that she was to meet me somewhere, and he wanted the sleuth to get a line on me and follow me if he could. Oh, the game was plain enough."

To the ears of the listeners there came the sounds of several muttered words, which, however, were unintelligible. A

long pause followed, then the man who had been addressed as Slevin spoke.

"The Inter-State's got the paper?" he asked.

"Yes."

"But it doesn't deliver at Tacoma."

"It transfers to the Dale at Wapiti Falls. If we leave at six we can beat it out."

There was another pause; then Slevin asked:

"Are all the eggs in one basket?"

"All in the machine-box. But why in the deuce doesn't the boat—"

"Hark!" Slevin exclaimed in a voice that barely reached the ears of Erskine and his companion, who, though they listened intently, failed to hear the sound or sounds that had startled the speaker.

For a moment all was still; then Erskine and McGrane heard the sounds of retreating footsteps.

"What's the game?" whispered McGrane.

"Hush!" Erskine cautioned.

From out of the darkness that concealed the waters of the lake came the low, measured click of oarlocks. A moment later two low whistles sounded from the beach. These were answered by two whistles from the unseen boat, then all was still.

"Come—let's follow them," Erskine muttered.

They had taken only a few steps, however, when they were brought to a standstill by the sudden flare of a match about fifty paces in front of them.

"They've stopped," said Erskine quietly. "If we—"

Startled by the sounds of quick footsteps near the sea-wall above him, Erskine allowed the rest of the sentence to die upon his lips.

Though the beach was so dark that it was impossible for Erskine to see the features of his companion, the light from a lamp on the drive enabled him to see the outlines of the face of a man who now leaned over the wall.

McGrane grasped the arm of his companion.

"Joe Warrington!" he exclaimed in a warning voice.

Moving quickly closer to the wall, Erskine and McGrane watched the man who was bending over it.

For a moment Warrington seemed to hesitate; then, with a rapid movement, he swung himself over the wall and down to the beach.

A score of warning voices now seemed to be sounding in Erskine's ears. Not for a moment did he doubt that the men whose voices he had heard were meditating some act of foul play against the young man who was preparing to meet them.

It was essential that young Warrington should be warned, but how was this to be done without revealing the fact that the words of Montresor and his companion had been overheard?

If the nature of this conversation was revealed to Warrington, would he give the story credence? If this should not be sufficient to shake his faith in Montresor, was it not probable that he would acquaint the Englishman with the fact that his conversation had been overheard? If he did this, there might yet be time to effect some change in the plans which had been partly disclosed by the conversation in the darkness.

And so Fred Erskine found himself on the shoals of indecision. He must decide quickly, and he must stand or fall by reason of the action which, with only a few moments for reflection, he must now decide to take.

Joe Warrington's feet had scarcely touched the gravel of the beach when Erskine strode quickly toward him.

Young Warrington, hearing the sounds of his steps, turned sharply.

"Montresor?" he queried in a low voice.

"Yes—Montresor," Erskine answered in a low, tense voice.

Scarcely had the Altoona man spoken when his right fist shot out and, crashing against the side of Warrington's head, sent him reeling to the wall. Quickly following his staggering victim, Erskine struck him two more blows that felled him to the ground, where he lay unconscious.

A hoarsely muttered oath behind him caused him to turn suddenly, and a moment later he dodged a blow which McGrane aimed at his head.

"What devil's game is this you're playing?" demanded the astonished coachman.

"Hush!" commanded Erskine, and as he spoke he gripped McGrane's wrists.

It was in vain that the coachman strained every muscle to regain his liberty.

"What's your game, you infernal—" McGrane began.

"Stop it!" Erskine muttered. "We have no time for explanations, and you promised to ask for none. We have saved this man's life, and it is now up to both of us to keep him from losing something that is still more valuable. He will recover presently, and when he does we must see to it that he believes that he was struck down by Montresor."

From the point at which the flare of the match had been seen only a moment before, came the sound of a low whistle. Erskine and McGrane stood silently beside the inanimate body of Joe Warrington.

At length the whistle was repeated; then Erskine heard the sound of advancing footsteps.

"You there, Joe?" came a voice.

"Steer him off," directed Erskine, addressing McGrane. "Tell him it was you who just came over the wall."

The coachman muttered something under his breath; then, after a brief hesitation, he advanced slowly to meet the unseen speaker.

"I ain't the man you're after, Mr. Montresor," McGrane said doggedly.

"What the devil are you doing here, McGrane?"

"Same as you, I guess," the coachman growled.

"Did any one send you here?"

"No. I ain't takin' no orders from no one to-night."

"Was that you who just got over the wall?"

"I couldn't have got down here without gettin' over the wall," the coachman grumbled.

"All right, Barney," returned the other, more civilly than he had spoken before.

"Are ye lookin' for young Mr. Warrington?" the coachman asked.

"No—no—not particularly," Montresor answered quickly. "I've met him here before, you know, and I—"

"Yes—I know," McGrane answered bitterly.

"Well, good night, Barney."

The coachman made no reply. Erskine, listening intently, heard the sounds of retreating footsteps. As these died away, McGrane slowly returned to where his companion awaited him.

"Now, what does all this mean, sir?" the coachman asked.

"It means—" Erskine began, and stopped.

From that part of the beach toward which Montresor had retreated came a low, scraping sound, and a sullen, muttering voice. This was followed by a silence which was broken at last by the click of oarlocks.

"It means that the body of this young man will not be weighted and dropped overboard from that boat to-night," Fred Erskine finished.

CHAPTER VIII.

The Philosophy of Ananias.

A LOW groan, followed by a faint clattering of stones, indicated that the prostrate man was stirring.

"Now, keep your head, Barney, and let me do the talking," cautioned Erskine, as he knelt down beside Warrington.

"All right, sir," the coachman assented gruffly.

As Joe Warrington rose to his elbow Erskine's hand fell on his shoulders.

"Are you feeling better now?" the man from Altoona asked.

"Who—what has happened?" faltered the bewildered victim of the assault. Then, as his thoughts grew clearer, he asked sharply: "Is that you, Montresor?"

"No, it is not Montresor, but a friend," Erskine answered dryly.

"But it was Montresor who—"

"Yes—yes—it was Montresor who put you where you are," explained Erskine, who, acting on the theory that the end would justify the means, found fiction better adapted to his purpose than truth.

With an oath young Warrington rose. "Well, who are you?" he asked.

"There are two of us," Erskine answered. "I am a stranger to you. The man who is with me is Barney McGrane."

"McGrane!" Warrington exclaimed.

"Yes, sir," spoke up the coachman. "Your father was just after firin' me when I picked up with this here gentle-

man, and he had the kindness to offer me a job of—"

"Of helping me drive off the chaps who had just assaulted you," put in Erskine quickly. "If it wasn't for the assistance of McGrane, your friend, Montresor, and two or three others of his kind would have had you in a boat that put off from the shore just before you recovered consciousness."

"They put off in a boat!" muttered Warrington wonderingly.

"Yes. Before you were assaulted, however, I overheard a little of a conversation that they had here on the beach. From what they said I had some reason to believe that they distrusted you and thought it best to put you out of the way."

"They did, eh?" growled young Warrington. Then, after a pause, he added: "Was that all you heard?"

"No. I heard enough to cause me to understand that if you don't make a prompt and vigorous effort to get out of the trap into which they have led you, it would have been much better for you if you had remained in their hands and been cast overboard after they had rowed you well out into the lake."

"You mean that I would be better dead?"

"Exactly."

"Then I am afraid that I have small reason to thank you for getting me out of their hands," said Warrington gloomily.

"On the contrary, I think I may earn at least a small measure of your gratitude, for I believe that I can put you in the way of saving something that should be more valuable to you than your life."

"Indeed! And what is that?"

"Your honor—and your father's."

For a while the silence was unbroken, then, in a hoarser voice, young Warrington asked;

"What do you mean?"

"The return of certain valuable bonds which recently disappeared from a place to which you had access."

Again a silence fell. Erskine heard the heavy breathing of the man he was addressing.

"You know too much," Warrington grumbled.

"It is little enough," Erskine answered easily. "Still, I think that with the knowledge that I have obtained I will have little difficulty in running down the men I am after, and restoring the bonds to the place from which they were taken."

"You are a detective?" Warrington asked.

"No. I am a special agent of a person who is scarcely less interested than you are in the restoration of the bonds."

There was another pause; then Warrington asked:

"In whose interests are you working?"

"In your own."

"Who has employed you?"

"I cannot tell you."

A muttered oath fell from Warrington's lips, and he addressed the coachman: "Barney, who is this man?" he demanded.

"Never heard his name in my life, but I think he's right when he says he's a friend of yours, sir," replied McGrane dubiously.

"Did you hear any of the talk that this gentleman says he overheard, Barney—Montresor's talk about getting me out of the way?" Joe asked.

"A little of it, sir, but no names was mentioned, and I didn't suspect that it was you they was puttin' up a job on," the coachman replied.

Joe muttered something in an undertone and began to move slowly in the direction in which Montresor had retreated. Erskine stepped quickly after him and laid a restraining hand on his arm.

"It will be better if you should give me your confidence, Mr. Warrington," Erskine said quietly.

Joe turned quickly. "No, confound you, I'll give no man my confidence—after what has happened to-night," he growled. "If what you and McGrane have said is true, I've got a bone to pick with Montresor, and the sooner I get to work the better."

"True," Erskine assented, "and if you can be made to understand that your interests and mine are one in this affair you will learn that you can work better with my aid than without it."

Warrington's hand fell heavily on Erskine's shoulder and shook it angrily.

"Come, now—speak out!" he exclaimed. "What kind of game is this you're playing? You say you have saved me from Montresor, and in return you

demand my confidence. Why? You appear to be an absolute stranger to me. What interest have you, then, in my affairs?"

"I am interested in your affairs only so far as they have to do with mine. Less than twelve hours ago I applied for a position in the service of the C., S. L. and W. I was told that my employment by the company was conditional upon my ability to recover the bonds which disappeared five days ago from the office of the company's treasurer. I have undertaken to restore these bonds to the place from which they were taken, and I will do so—with or without your aid."

"You have a line on them, I suppose," said Warrington sarcastically.

"If I had not a line on them, I should scarcely have appeared here so opportunely for you to-night," answered Erskine shortly. "If you want me to fight you, as well as Montresor, I'm ready to take on the game. If you will aid me in getting those bonds back to the vault in such a manner that no one will know how they got there, you will have everything to gain and nothing to lose."

"You mean that you will cause them to be returned by stealth!" exclaimed the astonished Warrington.

"Exactly!"

"But how?"

"That will be your affair."

"You mean that you will give the bonds to me?"

"Conditionally—yes."

"And what are the conditions?"

"There is only one. The bonds must be returned to the vault in my presence, and when this is done you must leave the place with me."

"After which you will report that you found me with the goods," Joe retorted skeptically.

"No. So long as the missing bonds are returned to the place from which they were taken, it matters not to me who was responsible for their disappearance. If they are not returned within thirty days, the exposure and punishment of the thief must follow."

"Am I to understand, then, that if the bonds are returned within thirty days, no effort will be made to expose or punish the man who took them from the vault?"

"Yes, you are to understand just that."

For a moment young Warrington was silent; then, in a voice that shook a little, he said:

"You have been assigned to this case by my father?"

"I have told you that I am working in the interest of your father—and yours. That is all that I can tell you now."

Again Warrington hesitated. "You have said that you have a line on the bonds," he returned. "Do you mean that you know in whose possession they are now?"

"Yes."

"You suspect that Montresor has them?"

"No. I know that they are not in the possession of Montresor," Erskine answered quietly.

"Not in the possession of Montresor!" exclaimed Warrington, with some sharpness.

"No. He parted with them to-day. A few days hence he will have them again, unless—"

"Unless—" put in Warrington, eagerly.

"Unless they fall into our hands," Erskine explained.

"And you think that—that you—" faltered young Warrington.

"I have told you that I would get them," Erskine answered firmly. "Am I to have you with me or against me?"

Joe hesitated for a moment, then he turned to the coachman, who, standing apart from the others was ignorant of the subject of their conversation.

"McGrane, you have said that my father discharged you from his service to-night," he said. "What was his reason for doing so?"

And now it was the coachman's turn to hesitate. "Because I disobeyed his orders," he replied.

"Was that disobedience in regard to any matter that had to do with me?"

"No, sir, but it had to do with Mr. Montresor."

"With Montresor?"

"Yes, sir—Mr. Montresor and Miss Warrington. Mr. Warrington told me to report to him whenever I drove Miss Warrington to houses at which I had reason to believe she met Mr. Montresor.

Miss Warrington told me not to do so. I did as she told me, sir, and so disobeyed Mr. Warrington. To-night he found me out, and then he fired me."

The words that fell from the lips of young Warrington were so low as to be unintelligible. For a moment no one spoke, then Joe said:

"It served you right, McGrane."

"I think it did, sir," replied the coachman penitently.

Speaking huskily, young Warrington addressed Erskine. "Does my father suspect that—that I—" he faltered, and stopped.

"He has not said so," the Altoona man replied.

"Do you think it would be better for me to go to him?" Joe asked.

"No. Under the circumstances, I think it would be better to give your confidence to me."

In the darkness Erskine felt a trembling hand close around his own. "You shall have it, then, but not here," he answered, in a low voice.

Erskine knew that his relation to the elder Warrington was suspected, but that what Joseph Warrington had to tell him was not for the ears of Barney McGrane. In the game that was to be played, however, the coachman must have a part, but he must be kept in ignorance of its full significance.

Erskine thought quickly. "I have a carriage waiting only a few steps from here," he said. "Follow me to it, but keep well behind me. What we do must be done quickly. The trail is hot to-night, and by the time the sun is up two of us must be several hundred miles from here."

As he finished speaking, Erskine clambered to the top of the sea-wall. A moment later he had disappeared.

"Barney, did you ever meet that chap anywhere before to-night?" Joe asked as he and the coachman prepared to mount the wall.

"Never, sir, but there's something about him that makes me feel as how he's like to prove a good friend of you and Mr. Warrington."

"Did he see my father this evening?"

"Yes, sir, and Mr. Warrington told him to take Miss Warrington to the opera, but Miss Warrington got him into a carriage that was sent by Montresor, and a few minutes later Montresor laid that fellow out in Lincoln Park. That shows, I guess, that Montresor knows he's dangerous, and is afraid that he—"

With an exclamation of pain and amazement, the coachman started back, then, with a loud, hoarse cry of rage, he grappled with a dark body that had flung itself upon him in the darkness. A keen pain darted through his left shoulder, and a moment later his sinewy thumbs sank deep into the yielding flesh of a human throat. But it was not from that throat that issued the long-drawn shriek that reached the ears of Erskine and caused him to halt abruptly on the sidewalk on the other side of the Lake Shore Drive.

(To be continued.)

Silence isn't a sign of brains, but it's an aid to thinking.
—Chief Despatcher's Motto.

Sand is a fine thing, up hill or down. Keep plenty in your dome.
—Sermonettes by the Old Man.

An engine with a cracked bell may have sound cylinders. Some drawbacks don't matter.—Ruminations of the Roundhouse Foreman.

A Night in the R. P. O.

BY WILLARD D. EAKIN.

PERHAPS the most romantic, but, at the same time, the most difficult position on the cars behind the steam-horse is that of mail-clerk, especially if it be a cold, windy night, and the train is making up time. In this article the author has described just such a run on the "Linc and Bill R. P. O." It took half a dozen engineers to make the trip, but the mail-clerks had to stick it out. Talk of cold and hunger— Just light the pipe and hook onto this yarn.

What One Man Encountered Sticking Letters and Throwing Papers in a Fifteen Hours' Run on a Car with a Broken Coupling, Fourteen Hours Late.

IT is a long run from Lincoln to Billings, and we mail-weighers and the colored Pullman porters were the only ones who made it. It took five or six engineers to cover the trip, and there were three division points where the conductors and brakemen changed.

Edgemont, South Dakota, divided the "east end" from the "west end" of the "Linc and Bill R. P. O.," and here the weary mail-clerk who had been sticking letters and throwing papers throughout the fifteen hours' run from Lincoln gave over his responsibilities to a fresh clerk, who would carry the run on through to Billings.

But we weighers went on at two in the afternoon, in the yards at Lincoln, where the mail-car stood until train 43 took it out of town at six, and we were on duty during the thirty-four hours until we reached Billings at midnight, the second night out. That was when we were scheduled to arrive, but we were often so late that our twenty-hour layover in Billings was greatly shortened. As one old weigher expressed it, we frequently "nearly met ourselves coming back."

Everything went wrong on this particular trip. In the first place, when we went to our car that day we found an old-timer with oil lamps and no steam from the engine taking the place of one of our modern cars which had been burned up in a recent wreck at Aurora.

We were in the habit of bringing along bacon and eggs or similar raw materials for our meals during the thirty-hour run, depending upon the little gas-stove, with which each modern car is equipped, to cook them.

Without the stove, the prospect was that we would have a serious famine before reaching Billings, for the most edible article in our grub-boxes was raw eggs. Then it was in February, and the prospect of keeping the atmosphere at

a comfortable temperature was not encouraging.

At Germantown, the first station out of Lincoln, the engineer started up too suddenly for the fourteen cars he was hauling and broke the front draw-bar of our car. Then they fastened us onto the rear end with a chain, and as 43 always ran local on the east end, we had an interesting though not pleasant series of sudden stops and starts.

Some Work to Cook.

That night we managed to boil some potatoes and eggs by hanging a bucket inside of the Baker heater, but in doing this we used up all of our kindling to make the fire hot enough, and during the night the fire went out while the clerk and I were working at the far end of the car.

At Grand Island, we laid over eight hours while the track was being cleared of a freight wreck, and the next day at three we plowed into a blizzard at Alliance, breakfastless, dinnerless, cold, and without kindling.

The clerk had been on duty for nearly forty-eight hours, having taken a friend's run for him, and as he had to double back at Edgemont with only an hour's lay over, he decided he could sleep if he couldn't eat, so he made up his cot on the rack and rolled in.

As the R. M. S. had lost its romance and become a sad reality, he viewed with no alarm the prospect of being discharged from the service, and, therefore, had no hesitation about allowing me to work the mail over his "slip," thus taking the responsibility of my errors.

As soon as he decided to sleep, I initiated myself as a mail-clerk, being glad of the opportunity to get the experience and hoping that having something to do would make me forget my hunger and the cold.

On the Job.

So while he snored away in his improvised berth on the paper-rack, I worked the local from station to station, exchanged pouches, weighed them "on" and "off," and recording the results on my weight blanks. At Crawford I got a jacketed "register," wrote it up in the book over the clerk's signature, and chucked it into the "Chey and Spoke" pouch.

The oil lamps had begun to play out, and by this time only one little flickering flame was left, at the upper left corner of the letter-case. By its light I got Crawford tied out with numb fingers. From the station-agent there, I got some oil to replenish my lights, but did not have time to fill the lamps.

Between Crawford and Edgemont there were two "catch stations," where the pouches were hooked in from a crane by the catching device in the mail-car door.

Such a station is not viewed with very much joy by a mail-clerk at any time, and they would be especially hard for me to make that night. We were fourteen cars away from the engine, and owing to the wind it was impossible to hear the whistles indicating our approach to the stations.

It was necessary, therefore, to keep a constant lookout for the lights. These could not be seen far through the stormy night, and I had to keep both side doors open and cross to each one every few minutes.

At Catch Stations.

The wind had been blowing in for some time. I happened across a package in the mails with one end open, and, strange to say, it contained a thermometer. I took this out and found that it registered four above zero.

I was soon chilled to the bone. The wind swept cinders and fine, hard snow through the big open doors.

I did not know which side the crane was on at Ardmore, the first of the catch stations, but, as I remembered that there was only a station-house and a water-tank in the town, both of them at a safe distance from the track, I tied one catcher in place before we reached the crane. While I was crossing the car to raise the other catcher arm, the pouch slammed into my trap, and Ardmore was off my mind.

But at Dewey, the other catch station, I couldn't do this. Only three days before I had seen a catcher arm straightened

back alongside the car from having hooked into the Dewey coal-shed.

That coal-shed was the bane of the mail-clerk's life on the "Linc and Bill." Setting so close to the track that the mail-car could not pass it with the catcher arm raised, and so near the crane that the arm had to be raised the moment the shed was passed, it made Dewey the hardest catch on the run.

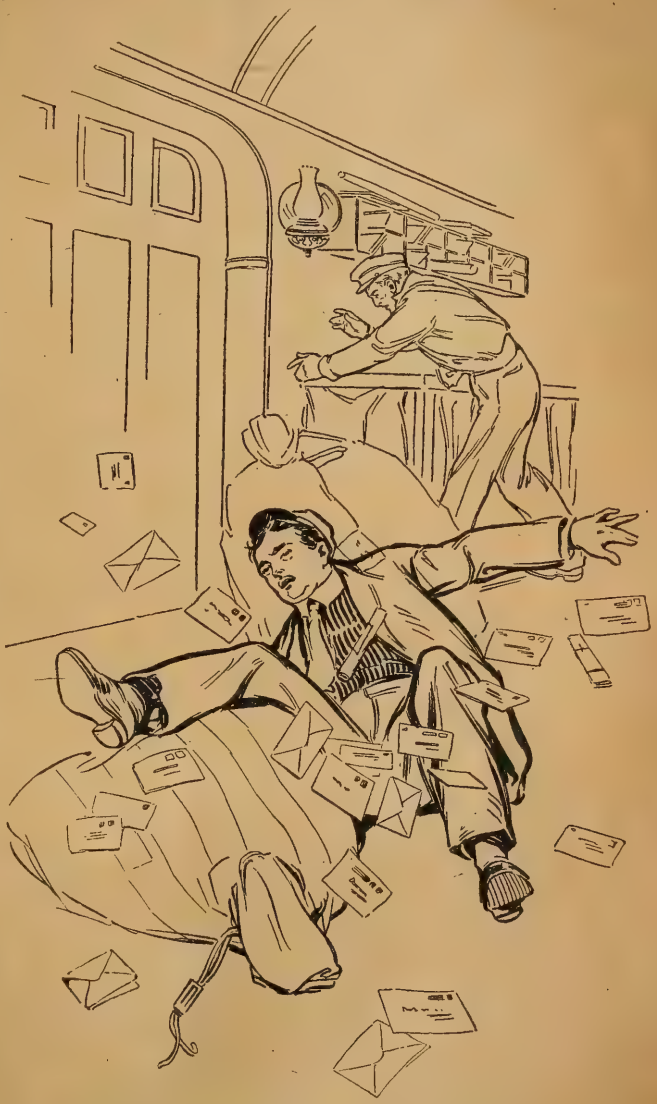
I had to keep an almost constant lookout ahead for Dewey, as she would whiz past and d i s a p p e a r into the stormy darkness behind. It was an hour's run from Ardmore, I knew, by schedule, but against the storm we were not making anything like schedule time.

When I had waited an hour, during which time I took advantage of the opportunity to fix up my lights, I had no way of telling how much longer it would take to get there, so I stood in the door and strained my eyes for a yellow light, waist-high and close beside the track.

Thus another half hour passed by, but only some red and green switch-lights were seen. As I had never given any notice to these before, I was unable to identify them and so determine where we were. But as I knew that there would be no others within at least a mile or two of them, those of Dewey would not show up for a few minutes, and I left the door to consult the rear shack.

As I unbolted the front door of the car and opened it, a blinding swirl of snow and wind nearly carried me off the platform, as I stepped across the clear space that the chain allowed between the two cars. I stepped over the iron gate into the vestibule of the Pullman and found the brakeman asleep in the smoking-room.

"Where are we?" I asked when I had succeeded in waking him.



THE ENGINEER STARTED UP TOO SUDDENLY.

"Well, now, how do you suppose I know," he said, "when I've been asleep for the last half-hour?"

I told him about the switch-lights, but he couldn't identify them from my description, so I clambered back into the mail-car and resumed my watch.

"WHERE ARE WE?" I ASKED, WHEN I HAD SUCCEEDED IN WAKING HIM.

This mental process was performed with a smile that seemed to crack my frost-stiffened face. But just when I had decided to give it up and close the doors, after taking a last hard look ahead, the light of the crane burst out of the storm fairly upon me. I had just time to raise the catcher when the pouch slammed into it.

My troubles were not over, but it was good to have the doors shut again, and, after running up and down the car to get warm, I clawed through the "local" for Edgemont, got her tied out, and awakened the clerk just as we were pulling in to that station.

We were fourteen hours late, and running hard to make up time. If I leaned out and got my ear to the proper angle, there came now and then a feeble grunt from somewhere up ahead through the storm, seemingly miles away, which might or might not be the whistle of the engine.

Cold and Mighty Hungry.

That the engine was ahead was made clear by the fusillade of cinders that pelted me in the face. My eyes inflamed and smarted as if they were freezing with the lids held open. I could feel my limbs getting blue and stiff, and the flapping of the thin trousers against them in the wind made a friction which, I remember, seemed welcome for the warming sensation it gave.

Several times I felt that I had reached the limit of physical endurance, but I was determined to make that catch or freeze in the attempt, though I was so hungry that I wondered whether I would freeze or starve first.

Twenty-four hours without food or sleep, blue and chattering with the cold, I was pessimistic enough to predict that the "west-end" clerk, knowing nothing of our situation and counting on the regular steam-heated car, with its gas-stove, would have only potatoes, bacon, and eggs in his grub-box. My pessimism was proven, except that he had steak instead of the eggs.

But a ray of hope came to me when I heard the brakeman say, as he passed our door going up ahead, something about turning the mail-car.

They were going to turn us around and couple us up with the good draw-bar at the other end of the car, so as to dispense with the chain connection.

Hustling for Grub.

I reported the happy prospect to the clerk, asking the significant question, how long it would probably take to turn the car around, in the hope that he would make the prospect even more happy.

"Good idea," he said, "and if you're so all-fired hungry as you say you are, why not run up-town while they're turning the car — it'll take about a quarter of an hour—and get some eatable stuff at the bakery that won't have to be cooked? You're not supposed to leave the car, you know, but maybe I'll want a bite myself before we get in, and I'll not squeal on you."

As I was hungry to the most absolute degree, I fell for the proposition at once. I hurried up-town, bought the eatables, and charged back down to the depot, with a pie under each arm and a can of beans in my pocket.

But when I turned the corner at the station and began the final dash for the train, I saw that the track was empty.

About a half mile toward Billings were the rear lights of 43, getting dimmer every second. I was left. That was all.

Would the clerk weigh up the mail and sign in for me at Billings, and persuade the other clerk to sign me out and do my work on the return trip, or would I be found out for having left the car and discharged from the service? And would the penalty stop even there?

What was the law in such a case? Was it not a criminal offense to go off buying pies and neglect the care of Uncle Sam's mail.

But, as usually happens in such a case, I was perfectly calm, and resigned myself to fate. I couldn't help feeling that possibly I hadn't fully realized the seriousness of my situation.

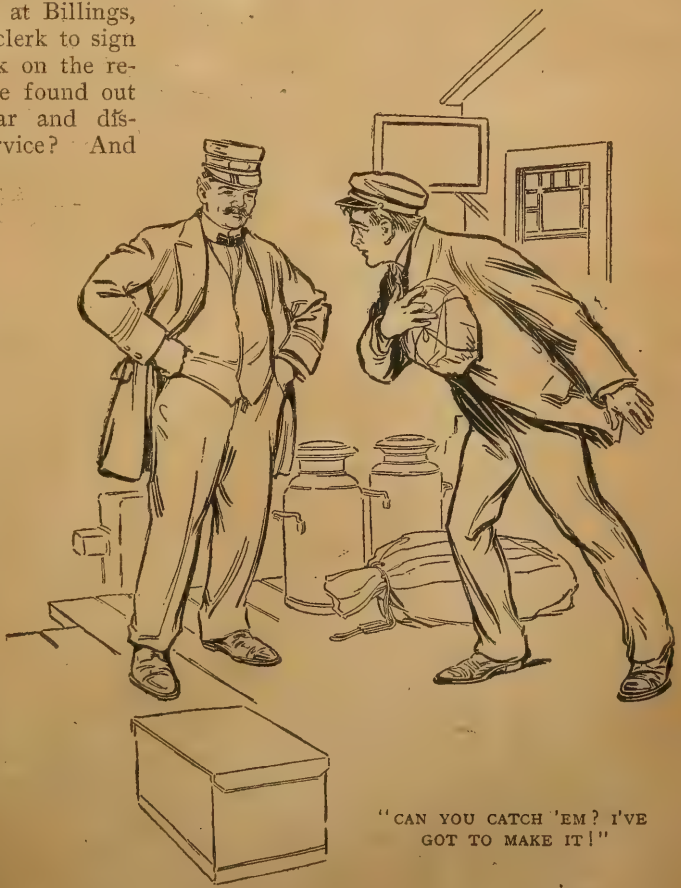
Meanwhile, however, I would drop back up-town and have a good, hot supper and a comfortable bed for the night at the railroad hotel. I had gone half a block when a hopeful idea struck me. The Deadwood and Edgemont train, known to mail-clerks as the "Dead and Edge," was on track No. 2, and they always waited for us before they left town, as they depended upon 43 for all their passengers and express, as well as all mail matter.

I looked back to the station just in time to see the truckman fling the last tie-sack of paper-mail into the compartment-car, and the engineer was climbing into the cab. Again I made a dash for the depot, retaining the pies and beans, and startled the con in the act of giving the highball.

"Did 43 turn his mail-car?" I gasped anxiously.

"Not yet," he replied; "they're going to turn her out at the 'Y.'"

"How far out is it?" I asked, while the engineer looked back for his signal to get out of town.



"CAN YOU CATCH 'EM? I'VE GOT TO MAKE IT!"

"Couple o' miles—out by the river."

"Can you catch 'em? I've got to make it," I told him, and quickly explained.

"Maybe," he said simply. "Get on, anyhow, and we'll try."

I'd have given that conductor a passport to heaven if I'd had it. I've often wondered whether he really went ahead and rode in the cab on my account, and if the suddenness with which that town vanished behind us was brought about for my sake, or if the fact that the train was twenty hours late had anything to do with it; but the surest thing about it was that we flew.

When we whizzed into sight of 43, they were throwing the mail-car in on the "Y." The tracks had separated some distance back, and were now more than half a mile apart.

The "Dead and Edge's" air went on, and in about two car lengths we slowed down so much that when I jumped I only made three revolutions on the sloping side of the embankment before I got up and started to run.

Then I did a Marathon in twenty-yard time, crashing through the South Dakota corn-stalks like a deer.

Meanwhile the engine was running in on the "Y," coupling up with the car by the chain, running it back to the stem of the "Y," then out onto the main track and sticking it onto the rear end of the train with the good coupler.

I had come nearly half a mile, on a day-empty stomach, through a corn-field, and had nearly a quarter left to run.

The engine pulled away from the train, passed the switch, backed out onto the "Y" again, switched back, and was making the home-stretch to the head of the train as I reached the right-of-way fence.

I used the last of my strength to climb into the mail-car door, just as a whistling rush of air and a clank underneath the car told that the engine had coupled and the air was connected.

"Well! Great jimcracks, I didn't expect to see you again!" was the mail-clerk's greeting. "But I'm glad you came. Have you got the pies?"

I had. They were badly smashed, but welcome enough for all that.

IN A PULLMAN CAR.

THERE is one who will always remember me
Wherever the Fates may call her,
No matter how splendid her fortune may be
Or how heavy the ills that befall her.
I gazed on her first as we thundering sped—
I and the beautiful stranger—
With faith in the man at the throttle ahead,
And never a thought of danger.

I looked at her often and wished that we two
Might journey forever together,
With never a care when the heavens were blue
And blithe in the stormiest weather.
Her lashes were long, her expression was sweet,
She must have been twenty or nearly;
Though I know not her name, though we never may meet,
I know she remembers me clearly.

In fancy I see her still, slender and fair,
As she was in that long ago May-time,
When her dark lashes curled and the bronze of her hair
Turned dusk at the close of the day-time.
Oh, I dreamed of her grace as we thundered ahead
When troubles no longer beset me;
Her cheeks may be faded, her gladness be dead,
But I know she will never forget me.

I know that whatever her future may be,
Whether lofty or lowly her station,
She will never forget that occasion when we
Journeyed on to our far destination.
Though I never may clasp her in happy embrace
And never may tell her I love her,
She remembers, I know, for I stepped on her face,
When I crawled from my berth above her.

S. E. KISER, in "Book of the Royal Blue."

DONNELLY'S HUNCH.

BY ALFRED H. GIEBLER.

Between Premonition and Prevarication, a Fireman Manages To Get Just What He Is Looking for.

ENGINE 808, pulling the division superintendent's special coach, "Magnolia," stood on the siding at Stoutland Junction. Engineer Tom Collins, who had brought her here, was stretched out in the office of the local doctor, a victim of acute indigestion.

At the station, Ed Francis, the conductor, stood over the telegraph operator.

"Tell the despatcher," he dictated, "that Collins is down and out, won't be able to finish the run. Tell him the Old Man is asleep in the car, and that if they'll let me pick up a fireman here and use Donnelly as engineer we'll get out in ten minutes and he'll never know it."

The operator with a nonchalant air of having division superintendents' specials tied up at his station every night in the week, worked away at his key a few minutes, then, after listening to the answering clicks, he turned to Francis.

"Nixey," he said, "DS says if the Old Man found out that Donnelly wasn't a regular engineer there'd be Sam Hill to pay; says for you to keep your shirt on a few minutes and he'll give you orders what to do."

"Well, any time to-night," growled Francis, "if the Old Man wakes, there'll—"

The operator held up his hand for silence.

"There's your dope now," he said, grabbing a pad of order paper. He wrote rapidly for a few seconds, then tore off one of the yellow sheets and handed it to Francis.

"For the love of Mike," Francis snorted, when he read the order, "this means a fifty-minute lay-over, and we've been burning the wind to make time. What is the—"

"Oh, don't tell me your troubles," said the operator languidly. "I'm not responsible for the way this old turnpike is run."

Francis grinned at him, put the order in his cap and went out to the 808. Donnelly, the fireman, leaned out of the cab.

"What did they say, Ed?" he demanded eagerly, as Francis came up.

"They said for us to wait till 32 gets here and then to take Pete Horn off the 64 to finish Collins's run. I thought they'd let you take the run, Matt. What is it they've got against you?"

"Oh, it's because I come off the Jerkwater," said Donnelly, all the hope and eagerness gone out of his face.

"Well, you'd make as good a runner as they've got." Francis yawned and stretched his arms. "I didn't get much sleep last night," he continued, "I'm going in the office and pound my ear till 32 gets here. Sorry they wouldn't let you take the run, Matt."

"Oh, it's all right," said Donnelly lightly, "I'm used to gettin' the short end of it."

"It's a shame, anyhow," said Francis, as he turned away.

The St. L., M. and E. Railroad is almost a bee-line through Missouri till it strikes the Ozark foot-hills; there it makes a wide détour, skirts the mountains to the southwest, then swings back toward the Mississippi, while the D. and K., or the Jerkwater, that branches off at Stoutland Junction, dashes boldly up and over the rugged knobs, comes down their western slopes, cuts across lots, as it were, and intersects the St. L., M. and E. again at

Jacksonville, the southern terminus of both roads.

The D. and K. is not taken very seriously by its stronger rival. It is considered as a sort of burlesque railroad. Its engines are said to burn hay for fuel, and passengers on the one mixed train a day that puffs and jerks over its forty crooked miles are supposed to be able to alight at any point along the way to relieve the tedium of the journey by walking.

The Jerkwater had been a cradle of industry to Matt Donnelly. He had started as water-boy on a construction train, and then, after he had worked as wiper, hostler, fireman—mastered every branch of the service that leads to engine running, and was as good and safe an engineer as ever pulled a throttle—he had come down to the main line.

But according to main-line standards nothing good could come from the Jerkwater. He was not given an engine, but put to firing.

"It's all right," said Donnelly, "I'll get a chance some day to show them that I can handle an engine as well as the best of them, and they'll give me a run fast enough." He believed this, and he told it to Katie Mullins, and Katie believed it, and so they were married.

But Donnelly did not go up on the ladder. He was made a fireman when he came to the road, and a fireman he remained. Five years had passed, and there was a pathetic stoop to Katie's shoulders as she bent over the sewing she took in to make both ends meet in their growing family.

The lilting Irish songs were stilled on her lips, and Donnelly had almost given up hope, but to-night when Collins was stricken, he thought his chance had come.

He would take the special to the end of the run, and he would be so careful that the Old Man sleeping away in his palatial coach would not feel a single bump to his precious bones.

He would show them that he could run an engine as well as any man on the road, even if he did learn the trick on the hay-burners of the despised Jerkwater.

Then he would get his run at last, and Katie—ah, Katie, with her patient, wistful face and tender eyes—would be happy again when they were living in the little cottage they had planned.

Thus he had dreamed, waiting for Francis to come back, and then his dream had been shattered. Tears of anger welled up in Donnelly's eyes. He had spoken lightly to Francis, spoken as though he did not care, but that was the Irish pride in him. He did care—he did care! Bitter disappointment and black rage filled his heart.

The waiting-room of the Stoutland station was only a few steps from where Donnelly sat in the cab of the 808 brooding over his wrongs. A child came to a window, saw the engine and disappeared, and in another moment was at the door dragging a woman by the hand.

"There's a train," said the child, "let's go to papa on that train."

The woman hurried to the engine.

"Where does this train go?" she asked, lifting a tear-stained face. "Does it go on the branch?"

"It doesn't go anywhere for a while, ma'am," answered Donnelly, "the engineer took sick and we're waitin' for another."

"I wanted to go to Cowan," said the woman. "I missed the train, and there won't be another till to-morrow."

"Y' couldn't ride on this train if it was goin' to Cowan," said Donnelly, "it's a superintendent's special."

"No, it'd be too tony for the likes of me," replied the woman, with a smile that was more of a ghastly grimace than anything else, as she turned away.

She was a poor bedraggled creature with all the marks of poverty stamped on her dress and features. There was something about her wobegone condition that touched Donnelly. It was the mute resignation of the poor—the philosophy that reasons that theirs is a misery that cannot be cured and must be endured. He called her back, intending to give her a word out of the abundance of his sympathy.

"Was it very important, what ye wanted to go to Cowan for?" he asked.

She turned on him fiercely.

"I'd give my soul to get there to-night. My husband's there, and he's dyin', he's askin' for me and I can't go to him."

"DON'T TELL ME YOUR TROUBLES," SAID THE OPERATOR.

"Maybe it's not that bad," said Donnelly kindly.

The woman looked up at him, a blaze in her eyes.

"He's dyin,' I tell you, he's dyin'! I drove him away and now he'll die and never know I've forgiven him and wanted him back a thousand times."

The poor creature was half crazy with her grief.

"He's dyin', he's dyin'," she kept repeating the words, her wild eyes fastened on Donnelly's face. He was the only person that had spoken kindly to her that day. She appealed to him, lifting her hands pitifully. "Oh, why can't I go to him?"

Donnelly's heart was very soft. All his own troubles were forgotten in pity for the woman, but he could not stand the terrible look in her face.

He turned his head aside to escape her stare. He looked out of the cab window idly.

And then—Donnelly became a true descendant of kings. He gave not a thought to himself, his immolation was completed. It was an Irish Don Quixote that climbed down from the cab.

"You wait here a minute," he said to the woman; then he ran to the rear of the special coach, climbed up on the platform, opened the door carefully and tiptoed along a narrow aisle to the smoking-room where the porter was having an audible dispute with Morpheus.

"That's good," said Donnelly, listening a moment, "it's a sign the Old Man is still snoozin'."

He ran back, led the woman and child to the front end of the coach and helped them up.

"Go in there," he said, opening the door and shoving them in. "Don't for the life of ye try to go in the other part of the car; just stay here till I come for ye. If a porter comes and asks ye what ye are doin', tell him ye are takin' a ride, and if he bothers ye, tell him Matthew Donnelly'll knock his head off!"

He was gone before the woman, bewildered by the turn events had taken, could say a word. He ran to the switch that led to the Jerkwater, swung the target around, then back to the 808.

"They can take their dirty job and keep it," he muttered to himself as he reached for the throttle. The engine began to move. It crept along the rails with care and caution like some great beast that was escaping from its master, the end of the main-line rails were reached, the ponderous drivers of the 808 gripped the lighter steel of the Jerkwater, and on they went, past the cluster of houses, past the coal-chutes.

Then Donnelly gave her more steam and they whipped around the curve and out of sight.

Conductor Francis found his couch—an unused corner of the telegraph table—an uncomfortable one, and he did not pound his ear more than twenty of the forty minutes of the wait till he rose.

He addressed a few uncomplimentary, and more or less profane remarks about the sleeping accommodations of the office to the operator, and getting only unintelligible grunts in response, went to the window to see how Donnelly and the 808 were getting along.

He looked out of the window once, rubbed a clear spot on the glass and looked again. Then he ran to the door and stared up the siding to the north and down the siding to the south. He called the operator, and, together, they looked up and down the track, and Francis even took a look up in the air. They returned to the office and spent a few seconds looking solemnly at each other.

The operator opened his key, and for the first time in the history of railroading clicked the news that an engine and a special coach bearing the august person of the division superintendent had disappeared—had faded from the sight of man.

Of course everybody thought Donnelly was crazy, and no one thought of the Jerkwater. The despatcher asked a thousand questions, most of them unanswerable. He gave a thousand orders, most of them impossible of execution.

All stations on either side of Stoutland were notified to look out for the runaways, for, as every one reasoned, there was no telling what direction a crazy fireman running amuck with an engine would take. The thing to do was to keep the track clear and avoid collision if possible.

The languid operator at Stoutland Junction was roused to quick action for once in his life.

Francis put in the time walking up and down the room, wording a letter of resignation he meant to write when he should feel a little calmer.

In the midst of things, the operator at Swinton, a station fifteen miles south of Stoutland, broke in on the wire, and a hundred miles of railroad held its breath and hung on every dot and dash of his message.

A farmer had telephoned that there was a wreck on a piece of the road that ran through his field.

Then consternation took a hand in the game. The despatcher ordered all the doctors in Swinton to go to the wreck, and two Italian laborers—one with bumps on his head and one who had lost a piece of skin the size of a dime—were hauled to Swinton in automobiles with ten surgeons attending them.

The wreck was that of a belated work-train that had run past orders to meet the special at Lomax, a blind siding a few miles out of Swinton.

Donnelly knew every foot, every curve and low joint on the D. and K. Its one train a day had long since made its round trip and he had a clear track. He whizzed the 808 through the little towns at a rate of speed hitherto unknown on the Jerkwater, and yet he was as careful as if Katie and Maggie and Malachi, the twins, and little Francis Xavier, who was but two months old, had been in the special car behind.

Most of the stations on the line were dark. At one place a belated agent came out on the platform and stood with bulging eyes at the unusual sight.

Cowan, the town the woman wanted to reach, was twenty-three miles from Stoutland Junction, and, in exactly thirty-seven minutes, which was not bad time, considering that Donnelly had to do his own firing, he slowed up at the deserted station. He stopped the engine and ran to the coach.

"Here ye are," he said, opening the door, "here's the end of yer journey."

The woman began tugging at the child that had gone to sleep on the floor. Donnelly picked up the youngster and followed the woman as she climbed down the steps of the car.

"Wake somebody up in one of them houses," he told her.

She tried to say something, she began sobbing hysterical thanks, but Donnelly was in the cab before she had said half a dozen words.

"Good-by," he shouted, as the train moved away.

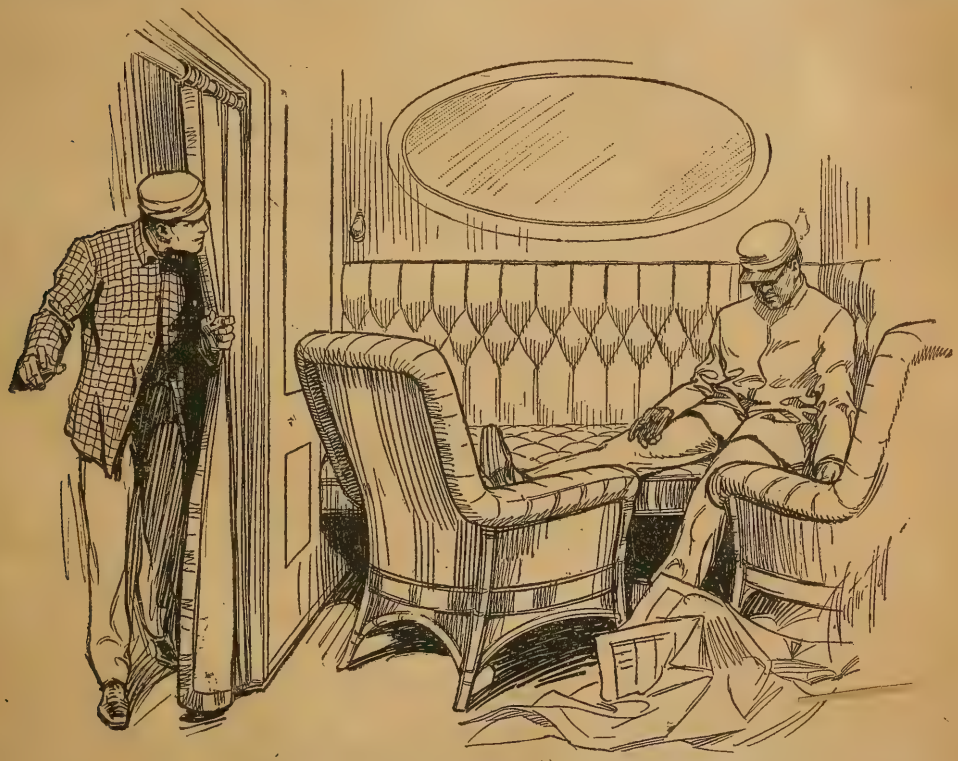
The rest of the run was made in forty-four minutes, and at 10.05 the 808 and the "Magnolia," with its calmly sleeping occupants, steamed into the Jerkwater yards at Jacksonville.

There was a switch connecting the two roads, and Donnelly might have delivered the special to the St. L., M. and E. station, but that would have entailed publicity, and that was something for which he was not looking.

He gave three or four ear-splitting blasts of the whistle to announce their arrival, slipped quietly down from the cab and sought his boarding-house by the most unfrequented path he knew.

He was glad Katie was at the other end of the road, it would delay the telling of the bad news that he was out of work for a few hours.

He went to bed with a heavy heart. The first thing he did next morning



THE PORTER WAS HAVING AN AUDIBLE DISPUTE WITH MORPHEUS.

was to pack his few belongings. Not considering his job worth resigning, he went to the office and demanded the money that was coming to him.

"Can't do anything for you," said the cashier, "got orders to send you over to the general offices as soon as you show up here. The Old Man wants to see you."

The Old Man was the last person in the world that Donnelly wanted to see, but there was no way out of it, he would have to go on the carpet before he was allowed to draw his money. In the elevator on his way to the Old Man's of-

fice he heard the first news of the wreck. Two men were talking.

"Everybody thought the fireman was crazy," one of them was saying, "but it looks as if there might have been some sort of method in his madness. A work-train ran past a meeting-point, and then went in the ditch on a spread rail near Swinton. If the fireman hadn't taken the special around on the Jerkwater they would have found the spread rail, or smashed into the work-train."

"Funny how things will happen," said the other man, "enough to make you believe in fate."

This news took Donnelly's breath away. He wanted to ask the men more about it, but their floor was reached before he could collect his scattered wits. He kept turning the words over in his mind as he went through the anteroom of the superintendent's office. The Old Man was sitting with his back to the door. He turned as Donnelly entered.

"Well, what's your trouble?" he snapped.

"Ye wanted to see me," said Matthew. "My name is Donnelly."

"So you're the man that took me for an enforced ride over the Jerkwater, eh?" The Old Man adjusted the glasses to his near-sighted eyes and leaned forward to get a better look at him.

"Yes, sir," said Donnelly, because there was nothing else to be said.

The Old Man sat and stared at him. then he took his glasses off and polished them carefully, put them back on his nose and stared again. He had the reputation of being hard, and many a man had quailed under that glare, but not Donnelly, who was thinking of the words he had heard in the elevator; he wondered if the Old Man knew. His next words satisfied him on that point.

"Well, what have you got to say for yourself? What made you do such a crazy thing?"

"Ye wouldn't believe me if I told ye," said Donnelly, "ye'd think it was foolish."

"It was foolish," roared the Old Man, slapping the desk; "the biggest fool thing I ever heard of. But what have you got to say? Out with it?"

"I took ye over the Jerkwater to keep ye out of the wreck. If I'd told ye before there was goin' to be a wreck, ye'd

"YE COULD HARDLY CALL IT THAT. IT WAS MORE LIKE A HUNCH."

have laughed at me and said I was crazy."

Donnelly spoke with assurance. He looked the Old Man square in the eye with the perfect candor of a child.

"What wreck?" cried the Old Man.

"The wreck last night," said Donnelly, "the work-train that ran past its meeting-point."

"Wait a minute." The Old Man grabbed a sheaf of telegrams that lay on the desk. It often happens that a division superintendent is almost the last man to hear of an accident, the news being kept from him till the details are complete.

"This tells me," he said, shaking a paper at Donnelly till it made a cracking noise, "that work-train No. 40 ran by their meeting-point at Lomax and then went in the ditch at a point two miles north of there." Donnelly nodded his head. "I take it, then," resumed the Old Man, "that if you hadn't abducted me and gone over the Jerkwater, we would have either hit the work-train or found the spread rail ourselves."

"That's it, sir," said Donnelly.

The Old Man wiped his glasses again, blinking his eyes rapidly as he did so. All the harshness was gone out of his voice when he spoke again.

"Do you mean to tell me that you knew this was going to happen, and that you took me around the Jerkwater to avoid it?"

"Yes, sir," said Donnelly, with becoming modesty, but gulping a little over the enormity of his prevarication.

The Old Man turned to his desk for a few seconds. When he turned to Donnelly again, he held out a paper.

"Take this to Effinger. It is an order to give you a regular run as engineer. A man that can take me over forty miles of the kind of track they've got on the Jerkwater and never wake me up, and can look far enough in the future to prevent wrecks, is too valuable for the service to lose."

"Thank ye, sir," said Donnelly, as he took the paper. He started to go, but the Old Man held up a hand.

"I want you to tell me something about this feeling you had. Was it a presentiment, a sort of premonition?"

Donnelly looked as wise as an owl.

"Well, no, sir," he said, rubbing the stubble on his chin, "ye could hardly call it that. It was more like a hunch."

FIGHTING FIRES ON THE PENNSY.

Employees Extinguished 321 Conflagrations During 1909, Saving the Company Thousands of Dollars.

THE annual report of the insurance department of the Pennsylvania Railroad shows that the company's own employees extinguished 321 fires during 1909. These fires occurred on property valued at more than $9,000,000, yet the loss from them amounted to only about $20,000.

The report derives added significance from the fact, says *The Railway and Engineering Review*, that during the past year additional equipment for extinguishing fires has been placed at available points. The road's own organization for fighting fires has been further developed by special training of employees, and additional locomotives in yard service have been equipped with special apparatus for use in case of fire.

A circular is to be issued by the insurance department giving the causes of all fires on the Pennsylvania system east and west of Pittsburgh in 1909, in order that the employees may realize that their efforts to minimize losses from fire are appreciated, and further, that their attention may be called to the number of fires occurring from preventable causes.

During the year 1909, there were 929 fires on the entire system, involving a loss of only $402,615, which was exceedingly small, comparatively, as the value of the property was more than $260,000,000. Forty fires, entailing a loss of $11,079, started on adjacent property. Spontaneous combustion was responsible for a loss of $10,315, from 21 fires.

Two fires resulting from careless handling of lighted cigars, cigarettes, and matches, caused a loss of $60,395. Nine fires were due to tramps, with a loss to the company of $1,270, and 28 fires, with a loss of $28,670, were of incendiary origin.

HELP FOR MEN WHO HELP THEMSELVES—NUMBER 30.

(The Rogers Group. No. 1.)

THE RAILROAD APPRENTICE.

BY ROBERT H. ROGERS.

THE editor of this magazine has received scores of communications from young men in all parts of the country, asking how they may become apprentices in the big railway shops, the conditions there, the pay, and similar questions. We are going to answer them in a series of five articles, which we have selected Mr. Robert H. Rogers to write, for the reason that Mr. Rogers has the twofold ability of being a railroad mechanic and a writer. This is the first article in the series.

We are publishing them in our popular department, "Help For Men Who Help Themselves," because there is no more appropriate place in the magazine. They will be distinguished as "The Rogers Group," however, and will run consecutively until completed. This series is no less valuable than it is interesting to the young railroad aspirant, the beginner in the workshop, the man who is on his first job firing; in fact, all men who are looking to the railroad for their future.

What Some of the Great Railway Systems Are Doing to Educate Young Men to Cope With the Improvements in Railway Construction.

EVERY feature in railroad service, animate or vice versa, has its development from a very small beginning. A pile of castings, billets, and boiler-plate results presently in a complete locomotive; and the awkward boy, whom you may notice in any shop, choking his hammer and pounding his hand oftener than the head of the chisel, may become the head of the motive-power department.

It is true that a long and rocky road must be traveled to reach this preferment; but, with very few exceptions, as an apprentice is where they all began, and from this humble capacity will continue to be recruited all the guiding hands and master minds of the future.

All of them, in the old days, chipped refractory castings full of burrs, swept the shop, and spent unavailing hours in the quest of impossible and preposterous tools. It was a hard school. A great

many will bear witness to this, even if we have pulled out of the rut, but the game was worth the candle, and it may be encouraging for every beginner to know that the big job can be his, if he honestly gets into it and tries.

During one of the recent mechanical conventions in Atlantic City several well-known motive-power chiefs met for an informal lunch at the Marlborough-Blenheim, after a morning session wherein had been profoundly and resourcefully discussed the all-important matters of cut flanges, leaky boiler-tubes, high-speed steel, and automatic stokers.

Perhaps the close attention necessary to intelligently follow the learned papers which had been read resulted in these subjects being tabooed after adjournment, in favor of less exacting topics; but, as railroading must be talked by its incumbents of whatever grade, whether on the ash-pit at Jersey City, or in executive session in the Railway Exchange, it could not long be evaded in this instance.

The form assumed, however, was a genuine treat to the writer, who was the only auditor, and no less a rare occasion, because the superintendents of motive-power became reminiscent concerning their individual advent into the business, in which now, in their line, they stand at the head.

They are taciturn, too, these high officials. They possess to a transcendent degree this peculiar attribute of veteran engineers, and it is pretty hard to get them to comment on their early days.

Big Men Who Began Low Down.

It transpired that E. T. White, head of the eastern district of the Baltimore and Ohio, had been an apprentice and a wiper, in the historic old Piedmont shops, when Sam Houston held forth in that quarter as master mechanic, and to whom, with Andrew J. Cromwell, the B. and O. is indebted for the advanced mechanical ideas which, in the time of these men, placed it ahead of its contemporaries.

Mr. White had good schooling in the railroad game, but he was a good pupil, too. Through ability only, and without a single push behind him, he passed through all the grades leading to his present position. And the end is not yet.

Frank T. Hyndman, of the New York, New Haven and Hartford Railroad, was running an engine on the old Pittsburgh and Western, between that town and Chicago Junction, within the ken of the writer, who was roundhouse foreman at the Glenwood terminal, where Mr. Hyndman's engine put up.

A. Stewart, of the Southern Railway, swung a hammer for many years in the U. P. shops before he saw his way to the top.

All Were Poor Boys.

Many of the older employees of the Erie Railroad recall when T. Rumney, now general mechanical superintendent, had charge of the rod-gang in the Susquehanna shops of that road, and it hasn't been so long ago either.

He rose from machinist, no matter through what changes of management the road passed in the meantime. When a better job opened up in his particular field he was always the logical candidate for consideration, and always approved by his superiors, whoever they might be.

These men were poor boys—plain, every-day apprentices at the start. They had to work for a living, and they chose railroading. With possibly a single exception they did not have the benefit of college training, or even theoretical groundwork in their future duties, but what they have since acquired in that direction is astounding.

The effort on their part, which resulted in literally "picking up" advanced knowledge, in the face of the terrific pace set by their daily work, must have been tremendous. Yet they succeeded, and are to-day among the top-notch motive-power men of the country.

Whether based on fact or not, it has often been remarked that the brightest minds in railroading are to be found in the motive-power ranks; and it need not be wondered at, because interest naturally centers in the spectacular. Mammoth engines, a giddy race with time, shops replete with wonder-working machinery, terminal roundhouses, with all their picturesque detail of personnel and environment—these attract a young man.

The locomotives suggest their crews and all the stirring stories which have

been written about them, and which will continue to be written until the end of time.

The Trades Taught.

The shops appeal to the ingenuity and the mechanical instinct, maybe dormant, but nevertheless inherent in us all, and the smoky roundhouse interests through the concentration of energy and human resourcefulness, which the veriest tyro cannot but admit must be housed within its battered and windowless walls.

That the ambitious young man of to-day finds all this just as appealing, is shown by the fact that the Erie Railroad has on file some two thousand applications from young men who wish to enter as apprentices.

The Baltimore and Ohio can produce as many more, and the Pennsylvania double the number of either. These are applications for machinist, air-brake inspector (which is now taught as a separate trade), blacksmith, boiler-maker, tinsmith, pipe-fitter, electrician, car-builder, cabinet-maker, carpenter, pattern-maker, and molder, all of which are necessary in modern car and locomotive building and maintenance.

The majority of these applications are for machinist apprentice, in the proportion of at least four to one. This is undoubtedly the most comprehensive of all trades. From its ranks are recruited a larger number for supervising and official positions than any other.

It is, of course, impossible to provide for all of these applicants; but on the larger roads, at least, about five hundred boys take up the work annually, and of this number seventy-five per cent finish out their allotted time of three or four years, dependent on the requirements of the trade which they are to learn.

Future of 20,000 Youngsters.

What of the possibly twenty thousand young men who every year are given the chance to learn a trade? The carefully compiled statistics of the writer, extending over many years, indicate that one thousand will become sub-foremen, or, in other words, gang-bosses; two hundred and fifty will be foremen, and seventy-five general foremen.

Fifty of these general foremen will become master mechanics, and five of the latter will be heads of that department, mechanical superintendents, or superintendents of motive-power, call it what you will.

This may seem a bit discouraging to the aspirant for honors in this attractive field, but remember always that deadwood is inimical to and inseparable from all callings. There is naturally a weeding-out process in the evolution of a future superintendent of a department so vital, and those who fall by the wayside can generally, and without a strained retrospect, unearth the true cause of their undoing.

Without a reference to the pluck of those who years ago learned the business, it would be unfair to comment on the tremendous advantages possessed by an apprentice of these days.

No more striking contrast could possibly be imagined than between these favored individuals and those who served their time in the so-called "good old days." When these two contrasts are laid side by side, it seems really astonishing that every beginner of the nineteenth century is not head of his chosen profession at first hand.

The "Good Old Days."

To learn the machinist's trade twenty, or twenty-five years ago, meant a degree of hardship inconceivable almost in this age of progress. The general plan of training, say up to 1890, was to start the apprentices in the roundhouse for a year, and to regard them merely as extra pairs of arms and legs to do the bidding of anybody connected with the "knock-about" gang.

This gang, composed of a boss, two machinists, two helpers, and one or two of the green boys, contended with all the hard work of removing and applying driving-wheel tires, dropping wheels in the pit for new boxes, and changing springs, all of which, with the crude appliances then in use, were very laborious operations.

It should be added that a roundhouse in which this work is done is rather a disenchanting proposition to a novice at all times and on all occasions. In summer

the thermometer frequently climbs around 130 degrees, and the boss would generally find a place to put the new boy where he would have no difficulty in appreciating the temperature.

He would, no doubt, think of happy school-days and the cool quiet of his country home, while lying over the high boiler of a "hog," with all the lagging burned from under the jacket; and lagging, in those days, was simply boards. He would be trying to pack one of those throttle-valves arranged on top, the skin peeling off his fingers from contact with the network of red-hot pipe, and half strangled by the smoke from his open kerosene torch.

Some "Fancy" Jobs.

There were other jobs, too, which even the writer cannot recall without a tremor. Many who read this have not forgotten the problem of the disconnected throttle, which rigging always came apart at a point under the shell of the boiler, about six feet in the rear of the dome.

There were a good many things in those boilers—stays, crown-bars, and what not; and after the dome-cover was off and the throttle-box removed, it became the time-honored job of the thinnest and smallest apprentice to be lowered by his feet, head first down the dome, and make his way over the crown bars to the seat of the trouble.

It was no trouble to replace the pin, the loss of which meant the disconnected throttle; but it was an awful job to worm one's way back again to where welcome hands would seize his feet and haul him out.

It is remembered in this connection that Joe Brady, once an apprentice with the writer, but now probably general foreman of the B. and O., at the Riverside roundhouse in Baltimore, became stuck in the boiler of the 806, on his return trip following this feat.

They claim that if a man loses his nerve he swells when in such environment, but it is nevertheless a fact that they thought the boiler would have to be cut apart before Joe was finally released.

Winter in these old roundhouses was not much of an improvement. They were ramshackle affairs at the best, all of them. The doors didn't fit. There was always a gap under them of from one-half to three inches, and it required all the waste bagging which we could beg or steal from the oil-house to stop the crevices.

There wasn't a whole pane of glass anywhere. How the wind did whoop it up when the wind was blowing right. Then the boys would put in many hours in the cold and damp pits under the engines, chipping away the ice so that the bolts could be uncovered to loosen the nuts.

The drop-pits on which this work was done were not the quick-action affairs of the present, operated by an hydraulic or air jack with a minimum of labor, but, on the contrary, they were extremely primitive.

The entire machinery for lowering the table on which the pair of driving-wheels rested while being dropped consisted of a jack-screw in each corner, turned by a wheel taken from the brake-staff of a freight-car.

Of course every new apprentice was assigned to the unenviable job of operating one of these wheels. Unenviable is without reservation, because there are tricks in all trades. The older hands on the other three wheels had the art of running their own down in unison finely developed, leaving the apprentice to lower practically all of the weight, to the accompaniment of blistered hands and a lame back.

Hunting "John Murphy."

There was another feature, too, that was "raw," and so "raw" that its memory lingers through all of these many years.

That was the innocent, but none the less disheartening, "kidding" to which every new boy became the logical victim.

He was sent off in a hurry, and always on a long journey, for some impossible tool. For instance, a machinist in the "knockabout" gang would opportunely discover that the progress of the work at hand must be held up until he could secure the loan of a "half-round square," this impossible tool being the property of a certain "John Murphy."

"John Murphy" was always farthest from the gang which the limits of the shop would permit, if, indeed, he were

not equally as mythical as the tool itself. The apprentice would be instructed to borrow this appliance from Mr. Murphy, and not return without it.

Fertility of invention worthy of a better cause was displayed by the mechanics of those days in creating these errands. The boys were hustled after "straight hooks," "left-hand monkey-wrenches," "whistle-tuners," and "smooth files."

They carried bogus orders to the storekeeper for "white lamp-black," and to the blacksmith to temper a "lead-center punch," carefully filed into a semblance of the steel article.

Sent for "Blast."

There is, indeed, an instance on record where an apprentice spent his entire dinner-hour in begging the foreman of the iron-foundry for a bucket of "blast." He was anxious to please the machinist for whom he was working, and that worthy had informed him that a great favor would be conferred if he could possibly beg or borrow a bucket of "blast."

This is a part of what happened to the big boys who went to learn a trade in those "good old days," because there was an infallible precedent to sort the newcomers in two classes, big and little.

The big ones had their initiation in the roundhouse, while their smaller brothers were assigned to the machine-shop, until they grew up strong enough to stand the roundhouse and its vicissitudes.

It cannot be said that they fared any better either. The machine-shops of those days wouldn't bear much comparison with what you may now see at Reading or Hornell. There were no gear-tables on the lathes; and if you wanted to chase an eight or a twelve thread you had to cover the whole machine-shop floor with figures, and many of these figures had as little bearing on the matter at hand as the "whistle-tuner" on the device to which it refers.

This first year of apprenticeship was the real test of a boy's staying qualities. If he survived it there was good stuff in him; the remaining three years didn't go so hard. He received his reward in the shape of a "bounty," now a thing of the past, and a clearance into the full-fledged machinists' ranks.

The "bounty" was a great institution, and it is a pity that it has passed away. It meant that from each and every day's pay eight cents would be deducted by the company, to be paid in a lump at the expiration of the apprenticeship.

This amount, usually $100, was a pretty good stake for a boy getting "free." Of course, there were certain tithes on this amount, but enough remained to buy a good kit of machinists' tools, and more cash at one time besides than the boy ever saw.

After they were "out of their time," and received their "bounty," they generally drifted away from the home fold to secure experience. Boys who started as apprentices long ago gave value received for the trade they learned. It was simply a case of the survival of the fittest straight through, and represents the school in which those whose names are mentioned at the beginning of this article acquired their knowledge.

The trade had to be picked up largely from the mechanics in the shop where the boy worked, and the result was almost entirely dependent on the desire of these mechanics to impart information. There was little disposition on the part of the shop supervisors to teach any apprentice. The foreman thought his duty done when he placed the boy as helper with a good mechanic, or in a position where he might pick up what was to be learned.

Seeking Information.

The old apprenticeship system was wofully weak in this particular feature, because it lacked the spirit of cooperation. Before the advent of the shop instructor —who is now paid to instil the ideas and best procedure in the mind of the apprentice through practical demonstration— the apprentice, when placed on a machine, asked a mechanic how to do a certain job.

He had to ask him, as there was no other way. The mechanic would say: "You will have to learn that the same way that I did." If the boy went to the foreman for information, he would usually find him so loaded with other duties that he would not have any time to devote to apprentice education.

The result was that the machine did not turn out the work, and unless the ap-

prentice proved to be an unusually good "sticker" he became disgusted with his trade.

So much for what used to be; but what a revelation for some of those old foremen if they could walk through one of the perfectly appointed apprentice schools of the present day!

The Difference To-Day.

They would see classes presided over by competent and well-paid instructors; drawing-rooms, with all implements furnished free of cost to the apprentices. In the shops it would be noted that the boys work on a defined schedule; that they are changed from machine to machine, or from operation to operation at stated times, and not allowed to remain two years on a bolt lathe.

The slow boy is shifted in the regular routine, so that the quicker boy who is to follow him may have the full time allowed upon the machine. A slow boy, who does not show decided improvement after three or six days of instruction, is taken off the machine and put on special work for which he is better suited.

He is told that the company cannot afford to reduce the output of that machine.

Some boys learn quickly, and others slowly. The quick boy often makes mistakes, while the slow ones, when the idea is grasped, seldom forget it. For this reason every effort is made to study the dull boy and bring him up to the standard before removing him from a machine.

Improving the Shops.

In order to meet the demands made on their shops, many railroad companies, within the past four or five years, have practically renewed all shop machinery. Additions to shops, power-houses, roundhouses, and roundhouse machine-shops have been built to keep in good condition the motive power and car equipment. To derive the greatest possible benefit from this investment, it is certain that the companies must have trained, skilled, and careful workmen.

In keeping with this advanced movement the Erie Railroad has created an organization for the purpose of giving technical and practical instruction to young men who enter its service as apprentices. It has established apprentice schools at Meadville, Pennsylvania; Hornell, New York; Susquehanna, Pennsylvania, and Dunmore, Pennsylvania.

These schools are free to apprentices in all departments, and attendance is compulsory. Instruction in the classes covers the fundamental rules of arithmetic, common and decimal fractions, proportion, simple problems in interest, tables and weights, the elementary principles of plane and solid geometry, mechanical drawing, practical and theoretical mechanics, and instructions pertaining to the construction of cars and locomotives, as well as lessons in their successful and economical operation.

Apprentices seeking employment in the shops of the Erie (and the same requirements apply practically to the other roads maintaining these schools) must not be less than sixteen, nor more than twenty-one years old, and have good general health.

Making Application.

Preference is always given to the sons of employees. All applications for apprenticeship are made to the master mechanic, or officer in charge of the shop, and the applicants are sent directly to the instructor of apprentices, who examines them as to their general education.

If he finds that they are qualified for the position sought, he so certifies to the proper officer, and the applicant enters the service.

The rules and regulations of this and other companies are based on a specified course of four years as the maximum time to be served. Time lost by apprentices is not allowed, but each apprentice must put in three hundred days, or the number of hours a day which the shop works, before he is entitled to advancement to another year.

Those who complete the course, as indicated by the award of a certificate of apprenticeship, are given machinists' rates in the shop in which they are employed, the rate being based upon ability and merit.

Apprentices in this department are given a general knowledge of the differ-

ent classes of work within a specified time of three years, as indicated in the following schedule:

MACHINE-SHOP.

	Months.
Lathes (bolt-lathe first, then general work)	6
Planers	3
Shaper	3
Slotter	2
Boring-mill	2
Vise work on rods	3
Vise work on motion work, pistons, cross-heads, etc.	4

ERECTING-SHOP.

Frame work, shoes and wedges, wheeling engines, putting up spring-rigging, engine-truck work, expansion-gear, etc.	6
Work above running-board, consisting of hand-rails, pops, whistles, boiler mountings, and all similar work	3
Putting up motion work, setting valves, lining guides, putting in pistons, applying steam-chests, etc.	4
Total	3 years.

The fourth and last year is spent, when possible, on work with which the apprentice is least familiar.

Not Included.

The tool-room and air-brake departments are now no longer included in the course given above for the machinist apprentice, but are treated specially, and a number of apprentices are kept in these departments, with the understanding that they are to become specialists in this particular work. And no more important item exists in modern locomotive practise than the air-brake.

The tool-room and air-brake departments in the large shops of the Erie are of sufficient size and capacity to profitably employ, at all times, from four to eight apprentices, and these positions are filled by capable young men. Apprentices in these departments are given a three-year course, as follows:

TOOL-ROOM.

	Months.
Handing out tools	2
Operating tool and drill grinders	2
Shaper	2
Milling-machine	3
Lathe	4
Vise work on die-sinking, making and general repairs to such tools as are used on the various classes of work in the different departments of the shop	5

AIR-BRAKE ROOM.

Overhauling and applying brake-rigging	3
Air-pumps	4
Lubricators, engineers' valves, injectors, etc.	4
Reducing-valves, cut-out cocks, steam and air gages, globe-valves, water-glass, and steam-gage cocks, pops and whistles, and all work handled in this department	7
Total	3 years.

For the Boiler-Maker.

The course for the boiler-maker apprentice in these shops is no less comprehensive. It is a four-year course, three years of which to be spent on the following schedule:

BOILER-SHOP.

	Months.
Heating rivets, and helping at light work on punch and shear, scaling boilers, etc.	4
Ash-pan and netting work, also as much miscellaneous sheet-iron work as possible	6
New fire-box work, reaming, and tapping stay-bolt holes, running in, setting and cutting off stay-bolts, etc.	4
Helping to scarf, roll, fit, shear, apply rivets, and calk new fire-box or new sheets	6
Setting flues	3
Helping on flange-fire	3
Working with boiler-maker on general work, such as flanging, riveting, applying new sheets, bracing and stay-bolt work	10
Total	3 years.

The fourth year of this apprenticeship will be spent principally in the back-shop on patches, half-side sheets, door sheets, back-and-front flue sheets, smoke-box extensions, liners in smoke-box, and general work in this department.

One apprentice will be selected from those in the fourth year of their time at this trade for instruction in laying out work from drawings. He will work with and under the instruction of the man in charge of the laying-out table.

The term of service in this work will be at least six months. At the end of three months another apprentice will be

assigned to laying out, so that when the first apprentice retires the second will be able to take a third, and so on.

The Erie Railroad Company announces, in connection with its apprentice schools, that the movement has for its primary object, not the making of mechanical engineers out of shop workmen, but the making of first-class skilled mechanics, so that the shop forces may be sure of men trained and educated in Erie standards and Erie methods.

Those who prophesied a few years ago that the new apprentice system which was being established on the New York Central lines would deteriorate and die a natural death as soon as the first excitement passed off, must be glad to learn that they were badly mistaken.

After three years those who have followed its progress closely are convinced of the principles on which it is established.

The New York Central has now ten schools in connection with its shops—at Beech Grove, Indiana; Collinwood, Ohio; Depew, New York; East Buffalo, New York; Elkhart, Indiana; Jackson, Michigan; McKees Rocks, Pennsylvania; Oswego, New York; St. Thomas, Ontario, and West Albany, New York. The last report indicates a total of 564 apprentices enrolled. The Union Pacific and the Santa Fe have also fallen in line, and are organizing apprentice instruction schools in their various shops.

What Apprentices Have Done.

The wonderful susceptibility to mechanical development induced by this systematic course of training is well illustrated by the following instances, taken at random from some of the shops of the New York Central lines:

In the West Albany shops a first-year apprentice, with only two-weeks' experience, bored twelve eccentrics in thirteen hours, and five eccentric straps in seven and one-half hours.

A second-year apprentice, with helper, set the valves on an engine in seven hours. He also set valves on two other engines in good time. A second-year apprentice, with helper, lined up two sets of guides and coupled pistons, all in six hours.

This boy had only three months' experience in this work. A third-year apprentice, in charge of the rod job, repaired thirty-two main rods, ten pairs of front-end brasses, and eighteen pairs of back-end brasses. He also made two sets of front-end brasses. All of this work was done in three weeks.

At the Oswego shops an apprentice, with but three-months' experience with a helper, ran the link job successfully during the temporary absence of the regular foreman. At the Elkhart shops a third-year apprentice laid out a new drop-pit jack for the roundhouse from a blueprint.

In the Drafting-Room.

At the McKees Rocks shops two fourth-year apprentices had full charge of a pit, with an engine for general repairs. The boys ordered all parts, made sketches for new bolts, lined up the guides, laid off the shoes and wedges, wheeled and trammed the engine and set the valves.

A fourth-year apprentice took complete charge of erecting a new engine, including the following jobs: leveling and squaring the frames, scribing and chipping the saddle, laying off the shoes and wedges, and wheeling and tramming the engine.

In connection with this mechanical training, boys are used in the drafting-room both before and after graduation. Before graduation those best fitted for the work spend three months making blueprints, drawings, and tracings. After graduation those specially adapted may be used as regular draftsmen.

When rushed, the head draftsman often takes drawings to the apprentice classroom to be worked up or traced. Apprentices assist the drafting-room in making numerous tests, such as indicating engines, dynamometer car tests, coal tests, etc.

Debating clubs give the boys an opportunity to write and talk on mechanical subjects. Speaking in public makes and develops initiative, and the ability to do this is due to classroom instruction. Club socials and picnics bind the boys to their fellow workmen and build up valuable friendships. The boys learn to understand and respect their superiors, but not to fear them.

The cause of this striking movement in the interests of advanced education, briefly summarized, is due to the tremendous strides in the development of the locomotive in the last twenty-five years, and to little else.

A Perplexing Problem.

In 1876 the standard passenger-engine in use throughout the country had cylinders sixteen inches in diameter and twenty-four inches stroke of piston, a toy compared with the present passenger-engine of the Atchison, Topeka and Santa Fe—the 1300—which would pull ten such engines as those of the centennial year, and their trains also.

The early locomotive builders had this advantage: The established gage of track—4 feet 8½ inches—was larger than their ideas. While their ideas progressed slowly, the extension of railroads proceeded tremendously, until 100,000 miles of track was laid in this country—and all at that gage of 4 feet 8½ inches. Not until this mileage was down did the fact dawn that the locomotive was outgrowing a gage now too late to change.

It is certain that this will remain the standard width of track for all time to come, as it is certain that no more than fifteen feet will remain the limit of overhead clearance.

During the past thirty years the weight of the locomotive has increased on this 4-feet-8½-inch gage from less than 40 tons to upward of 100 tons. Engines have become higher and wider, until the limit has been reached in both directions, and the only thing which can be done now is to improve the efficiency of the machine within the present limitations.

To cope with these requirements, perplexing problems are presented, and before they can be successfully combated each and every man in the mechanical department must be specially trained to an appreciation of the difficulties.

This explains largely why we have apprentice schools. They were not needed in the old days, because the track was bigger than the engine, but now the locomotive dwarfs the track, and all that can be done is to enhance its power within itself.

Thinkers Are Wanted.

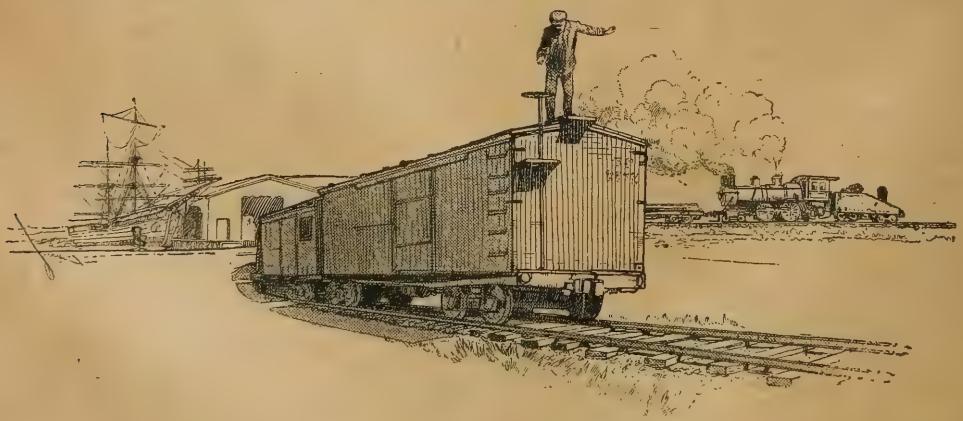
This is why the railroads want their boys to think, and they are willing to spend any amount of money to encourage them, because the greenest among them all may stumble on something which might mean a revolution.

They pay their apprentices well, too, when compared to the old days. The writer put in his apprenticeship at seventy cents a day for the first year, with ten cents a day added for each succeeding year.

It is not unusual for to receive now eighty cents the first year, $1 the second, $1.25 the third, and $1.50 the last year.

This may be an unwritten chapter in railroading, but it is true in illustrating the effort which all roads are making to develop men.

In the next article in this series, which will appear in our May issue, Mr. Rogers will describe the occupation of a railroad machinist.



THE GREATER LOVE.

BY BENJAMIN RUSH THORNBURY.

Sam Selkirk Proves that the Victory of Love Is as Great as that of War.

THE gaunt frame building that had served as division headquarters at Centerpoint for the past quarter of a century, trembled and creaked in the grasp of the blizzard. Everybody down in the yard, who could leave his work, had been driven to the shelter of roundhouse and train-shed by the fury of its blinding gusts.

Even the snorting little switch-engine, that had just finished making up an extra, crawled under the leeward side of the coal-chutes to keep itself warm. The big ten-wheeler that had backed down and coupled onto the long line of empties was panting a protest at being dragged out on such a night, its breath freezing upon its black sides as it fell.

A shaft of light shot across the yard as an upper door opened and closed, and the form of a man came out upon the landing and staggered down the creaking steps that flanked that side of the gaunt building.

It moved slowly across the half dozen tracks and disappeared through the open door of a box car that stood in the outgoing train.

A lamp waved a signal from the caboose and was answered by two short blasts from the engine, and with a clanking of draw-bars that sounded sharp above the storm, the extra pulled slowly down the yard.

"It never snows, but there's a blizzard out here," grumbled the night despatcher, bending over the train-sheet at the long instrument table in the center of the room, "and that applies to something more than the weather chart, too. Just let us get a heavy run of stock, and the Old Man's sure to find some reason for running that varnished wagon of his out on the line to play shuttle-cock with the schedule. It's a bad night to keep things moving."

He was addressing no one in particular, but the superintendent wheeled around from his desk in the corner and faced him.

"Speaking of the Old Man," he said, "did you notice that drunken bum that just went out?"

"No," he snapped, "I've been too busy keeping half a dozen hog-trains from running over the Old Man's special to notice anything. What's he got to do with the Old Man?"

"Nothing, now, but there was a time about ten years ago, when the Old Man was a strong factor in his life." The superintendent hitched his chair over to the table and cocked up his heels.

"Just a moment. I'll get this extra out of town and then eat my lunch while you talk," interrupted the other.

"It isn't a long story," began the superintendent as he lighted a cigar and carefully studied the burning end. "That drunken bum is Sam Selkirk, at one time the smoothest operator on the M. I. and N. Copper-plate copy and all that, and his Morse came so clean that even Fatty Dalton out at Elba would not break him, and that's saying a lot, for Fatty was the worst ham on the division.

That was before the consolidation and just after they brought Mr. Goodell down here from the Soo to be general manager. The road never saw such times as that, before nor since; for he was the best all-around operating manager they ever had.

"Well, Sam blowed into the general

offices one day, they were located at Kensington then, and hit the Old Man for a job. I guess no one ever knew where he came from, as that was before the days of the pedigree system, and a man got a job for what he *could* do and not what he *had* done.

"Beyond the fact that he could pound brass, the Old Man never asked any questions. I was a clerk in the office at the time, and I remember the expression on the Old Man's face when Sam sat down to that key. He did love a competent man, no matter what branch of the service he happened to be in.

"You can bet there wasn't any bulled messages in that office after that, and things went on as smooth as the road-bed for about six months, until one day Joe Kelsoe came in on No. 2 and announced that he needed a despatcher, and needed him bad.

"You never knew Joe, did you? Well, he was the littlest man with the biggest heart you will find anywhere; and when it came to getting trains over this hundred and forty-four miles of steel and cotton-wood, his peer wasn't born. He went down East when the road was gobbled up, but he was train-master here in Centerpoint at that time.

"The Old Man knew, by the way Joe cut his eyes around at Selkirk when he made the announcement, that he might as well look out for a new operator, for what Joe went after he usually got, and so the next day Sam was ordered to report here for second trick work. That was the beginning of Sam's troubles."

The superintendent paused to relight his cigar while the night despatcher marked up an "os" on No. 3 on the train-sheet and said "gn" to the operator.

"Of course there was a girl in the case," continued his chief, "and the girl in Sam's case was Jim O'Keefe's daughter. Jim was road-master; the Old Man having brought him and the chief despatcher down with him from the Soo. We had no superintendent here in those days, that work being divided between the chief despatcher and the train-master.

"The chief was a good man, all right, or the Old Man wouldn't have had him, and we all thought he was straight as a die, but a lot of straight trees have crooked roots you know, and they never showed in his make-up until Sam raked off some of the dirt by taking up with Fanny O'Keefe.

"Somehow, Fanny never told Sam that she and the chief had been thick up north. From that moment, the chief began throwing it into Sam and never let up until he finally got his scalp.

"Things went on that way until Sam and Fanny concluded to tie up. She was buying her wedding things, and Sam went around with the glad hand out to everybody. The boys used to say that even his "OK" sounded like a 'God bless you,' and many a lonesome lad up on the west got an hour off when Sam knew he ought to have been doing his work.

"He paid no attention to the malice of the chief, and took a good deal off him for the sake of peace. He always did his work, and everybody liked him, from the Old Man down.

"About that time the Transcontinental bought up the line and there was a general shake-up all around. The general offices at Kensington were abolished, and the road made a part of the St. Joe branch of the Continental. They wanted the Old Man to go down there as general superintendent, but he was too good a man to sub to any of those Wall Street importations, and as good as told them so. Besides, he was tired of the game anyway, so he resigned and moved over into Illinois and went into the real estate business.

"I never did know just how it happened, for I was in St. Joe at the time, having been moved down there along with the other office fixtures, but it seems that the chief had some kind of a pull with the powers-that-be that we didn't know anything about, and the first thing I knew, he was carded up as superintendent of the division.

"Just one week from that day Sam was fired for cause. Of course it was plain to everybody that the cause was under the new superintendent's hat, but you don't need a Gatling gun to kill a mosquito, and Sam wasn't much more than that in the Transcontinental eye.

"He came down in a day or two to get his time, and I never saw such a change in a fellow. I started to open the subject of his trouble, but he shut up like

a clam; didn't have a word to say against anybody, only that he guessed he would go out West and grow up with the country.

"That was the last I saw of him until he drifted in here to-night on this blizzard, and I never learned the whole story until the chief was raised from superintendent to general manager of Western lines and I came up here to take his place."

"*Our* general manager?" exploded the night despatcher.

"Our general manager," pursued the superintendent. "It seems that whatever the charge was, he queered Sam with the girl as well as the company, and in six months married her himself, and I guess it was that, more than the loss of his job, that put Sam all to the bad, and he must have gone to the bottom, for I didn't know him to-night until he told me who he was.

"He wanted me to place him, but I couldn't do anything for him, for the Old Man had seen to it that he is on the black book of every general manager in the country, and it would have been worth as much as my head; I have a wife and two little ones that must come first.

"I offered to stake him though, but he straightened up in a semblance of that old imperious way of his and said he wasn't looking for charity, he wanted a job. I told him then that the Old Man was coming through to-night and that if he would wait, I would see if something couldn't be done in the matter. He turned on his heel and went out. I never saw murder in a man's eye, but—"

"DS, DS, DS—BR."

"The night despatcher opened the key to answer the call, and the superintendent went quietly back to his desk in the corner. He was about to ask how the special was coming on, when he heard a sharp exclamation behind him and turned to see the night despatcher standing rigid in front of his key; his face was as white as chalk.

"Great Scott, man! I've put second 97 head-on into that special!"

"What do you mean?" gasped the superintendent, springing to his side. "Speak, man! For heaven's sake say something!"

The night despatcher had fallen limp in his chair, and the haggard face he raised to his chief was like death. He pointed silently to the open order-book.

ORDER No. 127.

C. & E. Spcl. West, Glendale Jct.
C. & E. Second Ninety-seven, Bradford.
Special west Eng. 1091 and Second Section Train No. 97, Eng. 4250, will meet at Deanley. J. W. B.
OK. Un. 11.48 P.M.
OK. Br.

"I got that train of empties over to the junction for them and then gave them that meeting-point with second 97. They left there ten minutes ago and Bradford just said 97 had run his signal board and had gone over the hill. His light was out."

He was speaking calmly now, but his slow, deliberate sentences came with a metallic ring.

"That means," he continued, "that in about twenty minutes from now that train load of hogs will be going down Deanley hill at a forty-mile clip, and about five minutes later she will land on that special, and—"

"And no night man at Deanley!" The superintendent groaned.

"Yes," affirmed the other, "Price goes home after No. 11 passes. And the Old Man's wife and daughter with him too. What's that!" he leaned toward the sounder, which was clicking rapidly.

"What is it?" asked the superintendent.

"Wait!" The word cracked like a pistol-shot, then he began translating slowly:

"Don't worry up there DS, I'm not the operator here, but I got that report BR. just sent and have put a glim on the bulls-eye; it'll stop the one that gets here first and—"

The circuit went wide open and did not close again, leaving the two staring at each other in helpless amazement.

"Sounds like a message from heaven," said the night despatcher in a whisper.

Extra east pulled up at Deanley tank and the fireman crawled over the ice-covered tender to let down the spout. A brakeman jumped down from the caboose steps, pulled his cap over his ears and started toward the engine.

"Tell Dave to get a move on there, we don't want to lay out that special," called the conductor from the cupola.

He delivered his message and was returning when he saw a tattered shoe protruding from the door of a box car.

"Here. This ain't no Pullman Limited. Clear out o' here!" he called roughly, and giving the foot a jerk, the form of a man struck the frozen ground and lay in a heap. The brakeman swung to the steps of the passing caboose, and the tail-lights glimmered around the curve.

The man rose to his feet and steadied himself with an effort, then staggered across the snow-covered platform to the door of the station. It swung open against his weight and he fell prone across the floor of the little waiting-room. A ruddy glow from the smoldering fire came through the open door of the stove and petted the white upturned face with little caressing touches of color.

For half an hour he lay thus, with no sign of life save the quick rise and fall of the stiffened coat at his chest, when on the other side of the lattice partition an instrument began pounding rapidly.

The man stirred uneasily and raised himself upon his elbow, his eyes fixed in a glassy stare. He was listening intently. Suddenly he struggled to his feet and stood with fists tightly clenched. His face was the face of a demon.

"At last," he sobbed. "At last! Hang him! Hang him! And he'll die like the dog that he is! If she was only there too—she—she! Oh, my Fanny!"

A mighty passion shook him, then slowly, as the light breaking through a storm-cloud, his features relaxed and the fire illumined a transformed face.

Like a madman he flung himself against the frail door and burst into the office. Tearing open cupboard and locker, he at last found the lantern and hugged it to him with a little inarticulate cry. In another instant he was at the stove again, wrenching off the globe as he ran.

Insensible to the pain, he grasped a blazing coal and held it to the wick. It flickered and went out. He flung it back and picked another, and was successful.

He replaced the globe with shaking hands and darted outside to the platform, where he hooked the lantern to the signal-board. Stumbling, he groped his way back to the office and sank into the chair at the instrument-table.

Outside, above the howl of the increasing storm, a locomotive uttered a single shriek, which was echoed by another far up the track, and a moment later the two panting engines came to a shuddering stop with their frosty noses almost touching. A glimmer of ruby light fell softly upon them from the swinging lantern.

Inside, they found the corpse of a man, his stark fingers clutching the key of a telegraph instrument.

FATAL COURTESY.

A GUILELESS rustic, wishing to be employed on a railway, emerged from the examination-room and informed his father he had failed because he was color-blind.

"But you can't have!" said his father. "You're no more color-blind than I am."

"I know that, feyther," he replied, "but it's all through bein' polite."

"What do you mean? Explain yourself."

"Well, feyther, I went into a room, and a chap held something up for me to look at. 'This is green, isn't it?' ses he. 'Come, now, you're positive it's green?' quite pleading like; and, though I could see plain enough that it wor red, I couldn't find it in my heart to tell him so. So I agreed with him, and they bundled me out. No more perliteness for me. It don't pay!"—*Pearson's (London) Weekly.*

JUST A HABIT.

A NUMBER of railway men were once discussing the question of accidents.

"The roads in Scotland," said one official, "used to have a bad name, indeed, in respect to accidents. No one thought of embarking on a railway journey unless he had provided himself with an accident policy.

"The famous Dr. Norman MacLeod was once about to set off on a long journey through the Scotch country. Just as the train was pulling out the clergyman's servant put his head through the window and asked:

"'Ha'e ye ta'en an insurance ticket, sir?'

"'I have,' replied the doctor.

"'Then,' continued the servant, 'write ye'er name on it and gi'e to me. They ha'e an awfu' habit of robbin' the corpses on this line.'"—*New York Times.*

Letters of an Old Railroad Man and His Son.

BY HERMAN DA COSTA.

No. 5.—THE SCHEME OF A REAL WINNER.

Breezy Secured a Job as Office-Boy and, Although He Incurred the Everlasting Enmity of the C. C., He Learned Something New About Railroading.

JIM TO THE OLD MAN.

DEAR DAD: Of late, I've been having a pretty hard time of it at the office. I was pretty well discouraged. The reason I got discouraged was on account of a little trouble I had with T. F.

Martin, T. F.'s secretary, had been homesick right along, and I've done all of Martin's work. Of course, Mr. Connelly did some of it too, but when the fruit season opened, Connelly had his hands full attending to his own work, so that I had to do all of the work by myself.

One day a rush wire came in asking what should be done with a train of peaches that was to be delivered us from the S. G. and Q., at Fredericksburg, that afternoon.

I'd been watching the fruit movements for some time; and as that was a part of Martin's work, and Connelly and T. F. were very busy, I wired our people to re-ice the cars at Fredericksburg, and hold them for regular movement the next day.

Late that afternoon, T. F. was out talking with Connelly, and I heard Connelly tell him that there had been no fruit-train that day. After T. F. left, I went over to Connelly and told him that there had been a fruit-train, and I'd told them to hold it for regular movement the next day.

Connelly went up in the air about it. It seems that they had intended this train to be delivered in New York the following morning, and were going to put on extra engines and give it the right of way in order to get a big piece of traffic from the south.

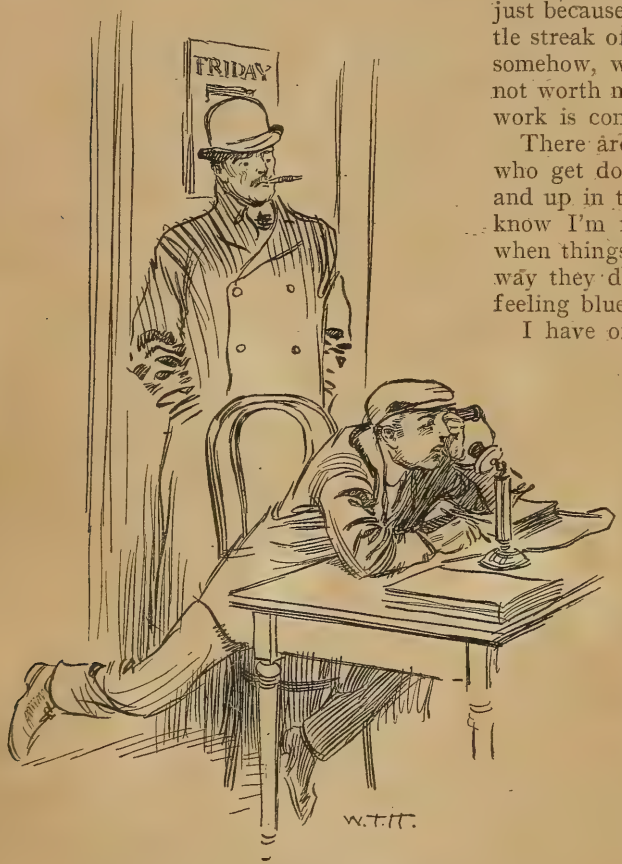
When T. F. came out, of course, he had to be told what had happened. Then the general traffic manager came in, and he had to be told; and then, as if to add insult to injury, the third vice-president strolled in, and the whole blame thing was gone over again.

You have been telling me a lot, dad, about how T. F. can cuss. I know, all right, now. If there wasn't a cuss word that he didn't know, it was because he'd never heard it. I expected every minute that I'd lose my head. I would have, too, if it hadn't been for the S. G. and Q. offering to let us use their engine to haul it through; and, by some good luck, we happened to have a pilot down there who took the engine over the road.

That was mistake No. 1. About two days after I was fixing up a lot of passes, and, in going out to lunch, left two books, which had been countersigned by Connelly, lying on my desk. When I came

back they had gone. I didn't think anything of it until five o'clock, when I couldn't find them any more, and then I told Connelly about it.

Coming so soon after the other trouble, it made things look pretty badly. The worst of it was that we hadn't taken a record of the book numbers, and so couldn't tell which books were missing in order to take them up when presented.



BREEZY HEARD SOME ONE ENTER THE OFFICE.

He passed it up, however, although he was supposed to report it to T. F.

The next day I made a mistake of twelve hours in reporting that 97, the fast freight, had run late on a trip, and it wasn't until after a hot letter had been written to the general superintendent about it that we found out it was a mistake.

Of course, it was too late to stop it; and I had the pleasure of being handed a letter the next day, by Connelly, in which the general superintendent, through his C. C., politely and gently informed us that we were drunk.

Then, for a couple of days, little things happened. They just seemed to flow along as if they had determined to flood me under. I got so that I was afraid to shake hands with anybody for fear they would drop dead.

I felt as if everybody had it in for me just because I happened to run into a little streak of bad luck for one day. And, somehow, when I get in that shape, I'm not worth my bread and butter, so far as work is concerned.

There are lots of people in this world who get down in the mouth one minute and up in the clouds the next. But you know I'm not one of that class. Still, when things begin coming at all like the way they did recently, I just can't help feeling blue.

I have often thought it really doesn't amount to anything, for in two weeks' time I would forget all about it and perk right up again; but I get in the dumps once in a while, and when I do, I stick.

I'm not going to make you blue, however. I'll get over it, I guess, in time.

Martin is still sick, and I'm still with the railroad. Nothing much on hand now. They're ordering a lot of new cars, and, though times look hard, nobody seems particularly worried.

Can't you get mother to take her picture, and send it to me? Get yours taken with her, so I can put it up on the mantel in my room. Give Miss Pesnelle my love, and ask mother to write soon. Affectionately,

JIM.

THE OLD MAN TO JIM.

DEAR JIM: Before you start reading this letter, pick a nice easy chair, with a good light over your shoulder.

You said, in your last letter, that you got discouraged with your work. I want

to tell you about a young friend of mine who used to work in the superintendent's office on the New York division twenty years ago. The boys called him Breezy. He was, too. He was as breezy a sight as ever blew down the pike.

One day the superintendent was sitting in the inner office when he felt somebody was standing before him, and looked up. It was a boy about nineteen, with hair like red ink and a face full of freckles.

"What is it?" asked the superintendent.

"How are you?" asked the boy in a kindly voice, holding out his hand.

The superintendent shook it.

"I came after a job," explained the boy confidentially.

"What job?"

"Office-boy."

After talking to the boy a while, the superintendent called in his chief clerk, Swidges, and told him to give Breezy a job as office-boy. Nothing was heard of him for about four months; then one day Breezy was in the office by himself when the telephone-bell rang. He hustled over to it.

"This the B. and D.?" he heard.

"Yes, sir. Who's this?"

"Adams & Co. We've five cars of chicks for Chicago. Can you take 'em?"

Breezy whistled. The C. C. wasn't down, but he had accidentally heard once that the company had been trying to get Adams & Co.'s business for a long while. He did some quick thinking.

"Well?" came impatiently over the wire.

"Give me your number; I'll let you know in ten minutes." Then he called up the freight-house.

"Anybody down there?"

"No one but the watchmen and two day men, sir."

Breezy scratched his head. "Hold the day men. This is the superintendent's office. There will be five cars of chicks out to-day from Adams & Co., for Chicago. Get the empties from the yard and put them alongside the freight-platform. Hustle!

"Exchange, give me D.-O.?" he asked. "This the train-master's office?"

"Yes; who's this?"

"The superintendent, Mr. Darrell." His voice grew gruff. "There'll be five cars of chicks to go on 97. Hold 97 one hour if necessary, then switch the cars out with her."

"Hold 97! Why, Mr. Darrell—"

So the bluff worked! Danny's throat almost burst in his endeavor to speak more gruffly. "I said hold 97 one hour. Isn't that plain enough?"

"All right, sir." D. O. rang off, grumbling.

Then Breezy did some more quick thinking. The crack fast freight of the B. and D. R. R.—No. 97—was due to leave at 4.30 P.M. It was now 3.30. Thirty minutes to load and send the chicks down to the station, one hour to load them in the car; that made 97 thirty minutes late!

Just then the phone rang. Breezy jumped for it. "Well?"

"Superintendent's office?"

"Yes, sir; what it is?"

"Those five cars of chicks—"

"Well?"

"We can't get any empties. No engine to switch a car." It was the freight-house.

Breezy groaned, then had an inspiration.

"All right, I'll attend to that. Telephone me when the cars reach the platform and when they're loaded." Then he rang off, and called again: "D. O., please." Then, after a little wait; "Hullo, D. O.?"

"Yes, sir."

"This is Mr. Darrell. Run a switch-engine out, quick, to the east yard, to take five empties to the west-bound platform. Telephone me when it leaves. And do it quick!" Breezy's voice was commandingly deep.

"All right, sir."

Then he called up Adams & Co. "Are those chickens loaded?"

"Yes, all ready."

"Send 'em down, then; we'll take 'em on 97."

The man at the other end was silent for a moment. "Who's this?" he asked. Breezy modestly gave his name. "We won't forget you," assured the other. Breezy thanked him, then rang off.

D. O. rang up. "No engine in service but 97," they reported.

"Take that," he ordered desperately. Then he sat down and drew a deep

breath. He was in, all the way over, and he might as well see it through.

In three minutes the bell rang again.

"Those chicks just arrived," reported the freight-house. "Two men on the wagon are helping us load them."

"How long will it take?"

"About an hour, sir."

"All right. I'll give you thirty minutes. The engine will be there then."

"We'll try. It's pretty quick work, though."

The next thirty minutes Breezy lived in suspense, and when the telephone-bell rang he almost jumped for it. "Yes?" he asked eagerly.

"Ninety-seven is just leaving," he heard. "They've got the chicks."

Breezy heard some one enter the office and stop behind him, but resisted the desire to turn.

"You did very well," he gruffly spoke. "Thank you." The other fellow rang off, and Breezy turned to the newcomer. It was the chief clerk.

"Who was it?" asked Swidges.

Breezy explained matters to him. The C. C. went up in the air. He was a hard man, and had never forgiven Breezy for going over his head to get a job. He finished by telling Breezy he would report the whole thing to the superintendent, Mr. Darrell. The next morning the superintendent came out of his office to the C. C.'s desk, and Breezy prepared for a storm.

"That was pretty good work of yours yesterday, Swidges," he said.

The C. C. glanced up. "What's that?"

"Those chickens on 97, yesterday," answered the superintendent.

Breezy's heart jumped. Now for the storm!

"Oh, yes," answered the C. C. carelessly. "I had to figure pretty closely on it, too."

"The traffic department called me up yesterday evening, and told me about it," explained the superintendent. "They say it'll give us a big lot of trade in the commission field. You did splendidly." He walked in his office again.

Then Breezy understood that the C. C. hadn't told him the truth, but he made up his mind to keep quiet. Just because he did, Swidges disliked him all the more.

It was hard for Breezy to keep still, however. One day he suggested to Swidges that, by a change of stenographers on different desks, they could save the salary of an extra man. The C. C. told him angrily that he wasn't put there to make suggestions; the next time he did it, he would be fired.

Then a long report was made to the president, the general manager, and the general superintendent of the delays to trains on all divisions. Breezy saw where the reports could be cut out and a daily morning report made which would not only be up to the minute, but only take a few minutes to make.

He told the train-report man about it, who told the C. C., generously giving Breezy the credit. The change was made, but the C. C. called Breezy up and told him that after this he either had to attend altogether to his own work, or quit.

That kind of thing would have discouraged anybody with feelings, but Breezy apparently didn't have 'em.

The temptation to have a hand in running the road was irresistible. One dinner hour, when the freight-office called up to get the routing of a car, and everybody was at lunch, Breezy, who had been shown how to get routes by the routing clerk, after hunting diligently, gave the necessary instructions.

Three days later the traffic department called up the superintendent's office. The chief clerk answered the phone, and, after quite a lengthy conversation, went in the superintendent's office.

Then he came out again, called the routing clerk, and retired with him to the sanctuary again. By this time the office was listening wide-eared. Breezy was wondering what it was all about, when the echoes of a heated argument came through the door of the superintendent's office, followed by the routing clerk, flushed with anger.

The train-report man, who was an old friend of his, stopped him as he passed. "What is it?" he asked.

The routing clerk was still angry. "That fool Swidges," he loudly declared. "He wants to tell me I sent a trial shipment out of route. Green & Co. gave us a trial shipment for C. V. delivery, and told us to hold for special instructions. Now, Swidges wants to tell me that I

"THIS BOY HAS DONE MORE TO DESTROY OBEDIENCE THAN ANY MAN WE'VE EVER HAD."

sent it without instructions, and we're going to lose all their competitive business."

Breezy suddenly remembered the car he had routed a few days before. He was up in a second, and hustled inside the superintendent's office.

The C. C. was just getting up to come out. The superintendent was facing the door. "Mr. Swidges," said Breezy, "I did that."

"Did what?"

"Routed that car, B. and D., and C. V."

"You!" exploded the chief clerk.

Breezy nodded. "Everybody was out of the office," he explained, "and the freight-house—"

"I don't want your excuses!" The C. C.'s voice shook with anger. He grasped Breezy's arm. "Mr. Darrell, this boy has done more to destroy obedience in this office than any man we've ever had up here. I think it's time to let him out."

Breezy pulled his arm away and his face flushed, but he did not answer. The superintendent looked gravely at him for a moment. Then he spoke.

"Who told you to route the car that way?" he asked.

"No one was in here at lunch-time but myself," he explained, "and the freight-house called up and said 97 was made up with this car, and they wanted a routing, as she would leave in ten minutes, and I told them to send it via Cumberland Valley."

The superintendent looked at the chief clerk. He shook his head. "The traffic department are in the air about it," he said. "It's not his fault, in a way, but—" The telephone rang, and he broke off.

"Yes, yes; this is Mr. Darrell," they heard.

"Mr. Green? Oh, yes; Green & Co." That was the firm that had shipped the car. What was coming now, Breezy wondered.

"We are very sorry, Mr. Green—what?—delivered? No, I didn't know that. They called me up. All right. Thank you, sir." He hung up the receiver.

"That was Dan Green," he said to Swidges. Then he motioned to Breezy to leave the room.

When the chief clerk came out from the inner office he said nothing to Breezy or the routing clerk, who was still smoldering at his desk. He began dictating, and Breezy got up and went to his desk. "Say, Mr. Swidges—"

"Go to your work," said the chief clerk harshly.

The next day Breezy heard the full story. The shipping man of Green & Co. had called up the traffic department to give them instructions for routing, and when he was told that the car had been shipped by another route he immediately notified the traffic department that it would mean the loss of their entire competitive business, whereupon the traffic department had called up the chief clerk and notified him to that effect.

Almost at the same time, Green & Co. had received notice of the delivery of the car to the C. V., and the time, three days, was so startling that the head of the firm had called up the superintendent and traffic department, and, after congratulating them, promised them all their business.

While the results were good, the increased dislike of the chief clerk rendered Breezy's position almost unbearable, and he was more uncomfortable because the routing clerk wouldn't let him come near the routing desk again. It drove him to spend much of his time in the yards, where he got a lot of valuable experience that he would never have learned in the office.

The peach season came on. For ten years the P. F. R. R. had cornered all the peach movement from the South, though their service was generally poor, their facilities rotten, and they steadily refused to improve them.

The Southern peaches amounted, in season, to as high as fifty cars a day, and the revenue was a nice little sum; but, somehow, nobody had been able to get it away from the P. F. R. R.

This year, however, the B. and D. got after the business. The result of the traffic department's work was a request on the general superintendent to run a daily train of two cars of peaches over the B. and D. There wasn't any profit running two cars special, particularly to New York markets, to which point there was always a heavy run of traffic—unless the traffic department could guarantee that the amount would increase.

The traffic department very politely declined to guarantee anything more than two cars. Finally the papers drifted down to the New York superintendent for schedule over his division; and he, after talking it over with his men, declined to offer anything but movement on the regular local, when connection could be made.

Naturally, the question was talked about a good deal; and Breezy, out of curiosity, got the papers and looked them over. They contained a lengthy statement of existing conditions, written by the traffic department, and also a schedule of Southern connections given by the commercial agent at Atlanta.

Breezy, after reading the correspondence over, decided that his road was being robbed of traffic that rightly belonged to it. That made him mad, and gave him an idea.

He went out on an unofficial inspection of the P. F. R. R. Then he saw his friend the train-report man, and got him to make up a schedule of special movement over the New York division.

As the peaches were delivered at Washington, practically the entire movement lay with the New York division, except for forty miles; and, remembering what the commercial agent at Atlanta had said, Breezy showed his friend that the peaches could leave Anacostia Junction, just outside of Washington, and where they were delivered, on 94, in time to connect with a special, and make early morning delivery in New York—something the P. F. R. R. had not done for six years, and meaning practically forty-eight hours from the South to New York.

Then the B. and D. had a big pier, practically unused. The P. F.'s pier was too small to accommodate all the traffic. Breezy explained that he had seen

that himself, and had heard the buyers complaining about it. Another advantage was that the B. and D. pier was near the commission district, well lighted, and with first-class accommodations for the produce trade. Wouldn't his friend help? He had an idea.

His friend, the train-report man, became enthusiastic when he heard the great idea; and helped him to make up not from the grinning buyer a promise that if he got other names to the paper in his pocket, he would give in his signature. The next day he went to see another man. When Breezy told him his name, the man thought a moment, then said:

"Didn't you take some chickens for us to Chicago some time ago? I'm Mr. Adams."

"Yes, sir."

"I WON'T TELL YOU WHAT I THINK OF YOU."

only a statement of existing conditions, but also a statement of guaranteed forty-eight-hour movement from the South to New York City on the part of the B. and D.

With the caution to him not to tell any one, Breezy slipped out. He went to the auction sales, and followed the largest buyers and commission people to their stores. Then one day he came down to work dressed in his best suit. During the lunch-hour he disappeared, as usual, and went to one of the men he had tracked down.

He talked with him earnestly, convincingly, and forcibly; and after a forty-five-minute conversation, extracted

"Well, we owe you something for that. What can I do for you?"

Breezy explained his plan. The man asked him question after question; and when Breezy produced the schedule that his friend the train-report man had prepared, Mr. Adams promptly signed his name.

Bidding Breezy wait, he dictated a letter, which he handed to Breezy, telling him to give it to the first man he had seen. That gentleman, after reading the letter, looked over Breezy curiously, and, after talking to him a little while, added his name.

When Breezy showed the train-report man those two names, that gentleman

gasped. The great idea was making a hit at last!

The next day Breezy got two of the largest commission men, who signed when they saw the names he had secured.

Then, the following day, he got two more names—both of them first telephoning Adams & Co.—and the great work was done. They were the controlling members of the Produce Exchange, and with them for a lead, every small buyer would follow.

Breezy determined to make it sure, however, and on the sixth day he landed the president of the Produce Exchange.

He returned to the office fifteen minutes late. The C. C. called him over. "This makes the fifth time you've been late this week. You can go."

Breezy looked puzzled. "Go! Go where?" he asked.

"Go anywhere! You're fired."

Breezy looked at him in amazement. "But, Mr. Swidges—"

"I don't want any excuses! Get out!" interrupted the C. C., and, turning to his stenographer, began dictating.

Breezy stared at him, still dazed. "Mr. Swidges, I've got the names here—"

The C. C. looked up. "Haven't you gone yet? Do you want to be put out?"

Then rage suddenly entered Breezy's heart. "I won't tell you what I think of you!" he exclaimed; and ere the surprised C. C. could gather his wits, Breezy seized his hat and departed hastily.

He walked home with his head up. Discouraged? Not he; he was just mad—mad clear through. After all he had done— Then the dust bothered his eyes, and he rubbed it out hastily.

Then he took his case in his own hands. The next day he called on the general superintendent.

"I want to show you a paper in my possession," he said.

"Sorry to hear you were fired," said the G. S.

"So am I," replied Breezy, smiling.

"Let's see your paper?" Breezy produced it. The G. S. looked at it. His eyes opened wide. He handed it to Darrell. "We've been trying for ten years to get that traffic, and this boy stepped in and got it in five days."

The superintendent read the names signed to it. Then he whistled. "By George!" he cried. "Why didn't I think of this before?"

"Why didn't any of us think of it before?" said the G. S. "No, the boy has got sound common sense." Then his voice sharpened. "Mr. Darrell, explain to your chief clerk what you want him for."

The superintendent turned to the C. C., who was already shrinking.

"How many passes have you sold since you have been with us, Swidges?" he asked suddenly.

The C. C. turned as white as a sheet. He tried to speak, but couldn't. The superintendent produced a paper from his pocket.

"We've found two hundred here, so far. Maybe you can add to the list." He turned to the G. S. "By the way," he said, "do you remember that Adams & Co. gave us all their business on account of some chicks we moved for them some time ago?

"Well, they telephoned me this morning that this boy was the one that arranged the movement for them."

He indicated Breezy with a wave of his hand.

"Yes," answered the G. S., "I know that, and a lot more." He turned to Breezy. "How old are you, Danny?" he asked.

"Twenty, sir."

The G. S. thought for a moment. "I'm going to take this boy, Darrell," he said. Then he turned to the C. C.—but the C. C. had disappeared.

The superintendent glanced inquiringly at his chief. "Let him go," said Thomas. "Maybe the poor fellow—" Then he stopped, and spoke to Breezy again. "I want you to report at my office to-morrow, Danny."

Do you know where Danny is to-day? He's third vice-president of the B. and D., and I guess you see him almost every day. If he'd allowed himself to be discouraged, where would he have landed? It's the fellow who climbs over the rocks in the road that gets where he's going, and not the man who sits down and weeps when he runs into anything that looks a little hard.

Affectionately, FATHER.

(To be continued.)

THE LOST HORSE, LIMITED.

BY J. R. STAFFORD.

Old Purdue Drove Crippled 96 to Her Destination After a Braver Man Had Jumped.

FOUR drowsy engine crews, cursing at the unexpected summons of the caller, lounged sleepily in the despatcher's office at Crags. It was a little after midnight. The air was pungent with the smell of burning pine, and the men coughed as the bitter smoke bit their lungs. Behind the eight men there skulked a great hulking fellow whom none of the rest seemed to notice.

Suddenly the despatcher and the superintendent of the division to the East burst into the room. The two eyed the enginemen a moment, and then the despatcher said:

"Men, I have called you all, for I want a crew to volunteer to take a fast engine and two cars up to the Lost Horse Mine. One car will be loaded with Italian miners, the other will carry tools and dynamite. I will not order any crew to go, nor any man. The for-

"IF HE'LL GIVE ME STEAM, I'LL HANDLE HER."

est along the whole sixteen miles is on fire and burning close to the tracks. The snow-sheds along the slope may be burning now. It is a dangerous trip!"

He paused, and there were sleepy curses in comment. He eyed them again, and again spoke slowly:

"I ask for these volunteers because there was a cave-in at the Lost Horse Mine an hour ago, and the whole night-shift is entombed! The day-shift is demoralized, and the dynamite that should have been put off at the siding there last night is in the yards here! Without it, the work of rescue cannot be done! They are perhaps only dagoes—but they are men. Now, who will go?"

Gallipel, the oldest of the engineers, lifted his voice:

"And you want some of us fellers to go up there and git blowed up in the snow-sheds, eh? Well, I won't go."

Certain of his position with the superintendent, Gallipel stumbled out. His fireman followed him. Jones, the next oldest and trusted engineer, stepped forward:

"I'd do it in a minute, sir, but you know my wife's an invalid and there is all my kids."

"I wouldn't want you to go, Jones," the superintendent answered. Jones and his fireman stood aside.

Masterson, the daredevil of the division, stepped forward.

"I cain't go! I won't go up against a thing where they hain't no chance! Leave off the giant and I'll pull her."

"But the giant must go, for the train goes to save the miners in the cave-in. We are not sending up there to add more to the number that now sit round and hold their hands!" The superintendent spoke sharply. Masterson, with a self-satisfied smile, stood aside with his fireman.

Parkman, the last of the four, stepped out, hung his head, and stammered:

"I ain't agoin'."

The superintendent said nothing, and Parkman and his fireman stood with the others who had refused.

The hulking giant who had skulked behind now shambled forward. He tried to square his shoulders, but they drooped quickly; he tried to hold up his head, but he only jerked his chin. His eyes blinked like those of an animal threatened with blows on the face, and his lips opened and closed without a word. There was something piteous in his attitude. The superintendent spoke not unkindly:

"Purdue, the caller only brought you because I forgot to tell him there was no use."

The coarse hands of the giant fluttered for an instant and then he found his voice:

"I'd like to have the chance."

The superintendent smiled in spite of himself, and Masterson snorted with vast incredulity:

"Old Purdue!"

The gravest and most sympathetic smiled; the others roared.

The superintendent recovered his equanimity and studied the frightened face of the man before him. Then he said slowly:

"Purdue, you have been eligible for an engine now for fourteen years. You know your record as well as any of us. As a fireman, you jumped half a dozen times when there never was a wreck. You never could have an engine on a regular run under me. You could not have this one if there was any one else to go.

"But we have promised the manager of the Lost Horse the men and powder if we could get a crew to pull the train. Find you a fireman inside of twenty minutes, and remember that if you jump this time, you will never go back to the roundhouse even as a wiper."

Old Purdue tottered out without stopping to ask his favor of any of the firemen present. As he passed, they saw his face was white as chalk and that he was trembling from head to foot.

The outcome was pleasing to the crews that had refused to go. It would have to be developed by Old Purdue—the grotesque and farcical Old Purdue; the man who hadn't sufficient nerve to fire the engine on a work train.

It was a joke to be enjoyed beneath the noses of the superintendent and the despatcher.

The superintendent listened to them for an instant, and then his voice cut like a knife:

"And when it is explained why no

help came to the entombed men, it will appear that even a coward like Old Purdue would have pulled the train; but all other enginemen were greater cowards, and he could not get a man to give him steam."

Masterson sprang forward with clenched fists and angry face and cried:

"If he'll give me steam I'll handle her."

The superintendent ran to the door and called Old Purdue. He came, and stood frightened, with his cap in his hand, as if he feared permission had been given to some one else.

"Masterson has agreed to handle the engine, Purdue, if you will fire for him? Will you do that?"

Old Purdue's chin shook, and his hands worked nervously as he answered:

"I'd be glad to fire for Masterson. He's a braver man than me."

The comparison struck the risibilities of the crowd, and all guffawed save Masterson.

Masterson was mad. He growled:

"And I'll let you fire for me, because you are a blunderin' ass—and because I might make a man of you! And if you open your head ag'in here in this crowd like that, I'll punch it for you!"

What might have resulted in horse-play was sidetracked, for the superintendent lifted a warning hand and cautioned the men to remember that this was an expedition to save the lives of men. The swing to the gravity of the occasion was accomplished when the despatcher, who had gone to the key for a moment, returned with the word:

"All hope of rescue from the other side is gone! The bridge over Buffalo River has burned! Carriton Siding reports that the trestle over Carriton Creek is likely to catch fire at any time, and he says that from his window he can see the fire licking away at the spruce next the snow-sheds! Hurry, or the débris will block the way!"

Without more ado the whole party dashed down the stairs to the platform outside. The night was thick, but over in the east there was the red glow of the fires, and every now and then a puff of wind brought clouds of pungent smoke and heat.

Down by the roundhouse, an engine gave two warning blasts, and then dashed up to the platform on which they stood. It paused, and, leaving a car, passed on.

"The dynamite!" the superintendent muttered.

The engine shot by them, backing down on a switch, and a moment later

"DROP THAT SHOVEL, OR I'LL BRAIN YOU!"

came tearing forward again with another car, through the rude windows of which there gleamed faint lights. That was the car containing the miners. Then from down at the roundhouse came a mighty wail, and the steady tolling of a bell, and all murmured "Old 96."

An instant later 96 came rumbling down the switch, paused, and backed down to the coupling with the rescue train. Masterson grumbled some sort of thanks for the best engine on the division—the heaviest and fastest of the heavy and fast for which that mountain division was celebrated—and then clambered proudly to his seat.

Old Purdue climbed in mechanically, and did not turn his face to them. In response to the throttle, 96 swung slowly ahead, but Old Purdue did not look out, nor did he notice the men who cheered Masterson.

When the last frog had rattled beneath the pounding drivers, Masterson turned to the crouching and fear-struck volunteer, and thundered:

"Old man! it's a race fur life! Give her steam! Give her steam! Give her all there is in her, for I'll use it all! And if you start to jump, I'll brain you!"

He turned and steadily opened the throttle to the last notch and the speed became terrific. Old Purdue looked out into the flying night, and it seemed as if the old desire to jump would master him, but the shame and contumely of the past held him back with a stronger hand.

THE SPEED WAS FANNING THE FLAMES.

Mechanically he got the shovel going and fired carefully. The dread of death had passed in Old Purdue—he had suffered its acutest agonies. He fired as Masterson had never seen a man fire before.

Old 96 leaped along like a thing gone mad until she took the grade. There the steep ascent cut down her speed, but she was flying with the swiftness of an express. Masterson, reckless though he

was, eased down the throttle notch by notch.

The steam in the gage showed 160, 180, 190, 195. By five-pound advances the hand went round until 250 showed—and Old Purdue mechanically shoveled in the coal and mechanically swung to the door with lightning-like precision. Masterson leaped across the cab, and yelled like a madman:

"Hold up! Can't you see the gage? You'll bust her b'iler! We don't need steam going down! Drop that shovel, or I'll brain you!"

Old Purdue leaned against his side of the swaying cab and took a deep draft of the smoky air. He looked forward and, for the first time saw the fire ahead. The glow in the sky just over the grade was just what he had seen when the prairie burns by night. In an instant, they had topped the grade and were dashing down.

Ahead there was an arch of leaping flames that swung like a low-flung banner squarely across the tracks. On either side, as far as the eye could penetrate, the lurid palls of fire leaped and hurled upward and billowed in vast waves of smoke like a tempest-swept, infernal sea.

With an oath, Masterson threw on the air, and, reckless of the consequence to 96, threw her over into the reverse. Old Purdue, aware of what was going on, reeled back from the boiler against which the shock had thrown him and, hesitatingly yelled:

"Ain't you goin' on?"

"Not on your life! A man would be a fool! I'll back her in home to Crags."

Old Purdue shifted his feet as the engine slowed down and then on a sudden he threw up his head and hand:

"I volunteered to take the train—and the train is goin'!" With that he threw her over into the forward, shifted the air and opened the throttle with a jerk.

Masterson struck once and ineffectually at him, and, with a frightened glance at the burning sheds, jumped.

Old Purdue leaped up to the throttle side and, craning his head far out, studied the blazing bow toward which he was hurling. As yet no timbers were sagging, nothing prevented his safe passage through unless parts of the framework should give way as he advanced. He thought of the possibility of the powder-car catching fire, and opened the sand pipes to give him greater speed.

The pilot entered the flaming portal, and Old Purdue slipped over behind the fire-box and began shoveling coal. He counted eight shovels, and, looking up, saw no walls of flame about the cab.

He looked again to the mounting gage and then clambered onto the tender. He got the water-bucket and, filling it, crawled out onto the top of the car containing the men.

From that position he saw that the roof of the car behind was blazing in two places—and the speed was fanning the flames.

He balanced his bucket, ran nimbly along the reeling deck of one car and leaped to that of the other. At the first flame he spilled most of the water and put out the fire there. He went back to the other and fought that with his hands.

When the last ember was gone, he ran back again, but even as he leaped to the deck of the miners' car, a gust of flame swept up between.

He stumbled across the tender and shut down. He filled his bucket and once more ran back and this time clambered to the ground. As he stood by the blazing trucks that threatened each breathless second to ignite the terrible cargo above, he beat on the end of the car ahead and cried:

"Out there! Out—and help!"

In a moment the ground around him was swarming with the frightened Italians. He fought the fire with his bucket, coming back each time with it replenished, certain that each time would be the last before the explosion would end it all. And then, seeing he could make no headway alone, he ran to the cab and seizing the coal-hammer, drove the cowards to the work and made them beat the flames.

When that was done he drove them back into their car. Then with reeling brain he crawled into the cab, dimly conscious of the fact that 96 was leaking steam at joints that never had been known to give, and that her safety-valve was roaring louder than the flames.

He opened her throttle easily, fearful

of the high pressure against the half-cooled cylinders. She moved off slowly and for some unexplained reason did not gather speed. He threw the throttle open wider, but she only took the pace of an old freighter.

Purdue looked at the gage and saw that the steam was down to a hundred. He looked far ahead and saw that the trestle over Carriton was a mass of flame.

Without pausing, he bent to the task of making steam. Shovelful after shovelful he scattered in, until a little more would have choked the draft.

Then 96 began to take on life again. Old Purdue was glorying in her speed.

He looked forward again. The trestle was close at hand. His heart leaped as he saw that the rails lay true the whole way across and that none of the ties were burned off.

He pulled at the throttle, striving to open it beyond its limit, and just as the thing seemed done, there came a splitting crash and 96 trembled from peak to pilot, and her left-hand cab-side vanished.

She jolted for a hundred yards or so and came to a stop.

Old Purdue knew that keys came out of drivers, and that when they did, connecting-rods, spinning like windmill-sails, demolished whatever they touched.

He looked at the flaming trestle, and, with a torrent of oaths, got crowbar and wrenches and once more summoned the men. They came forth, gladly, all of them. They loosened the nuts as he directed them, and they helped pry the connecting-rod loose.

He ordered them to get in again, but they ran away.

Old Purdue heaved a sigh that was half relief, and again he crawled into the cab of 96. He made more steam and slowly opened the throttle, but she was on center—the other cylinder was dead.

He got down, and with his crowbar pinched her a little way, enough to give her head.

Again he clambered to his seat and gave her steam. She took it like the cripple that she was and hobbled off. He watched her carefully and saw her gathering speed and then he made more steam.

Out onto the quaking trestle the crippled train dragged its way. The timbers beneath cracked and some of them fell down, sending up embers and clouds of sparks and sullen sounds. The heat grew terrific, the cab was full of the smell of blistering paint, and the roar of the flames was mighty.

But Old Purdue, who had passed the fear of death, mechanically shoveled coal.

At length, crawling, crippling, and thumping with her one cylinder, 96 gained the far approach—she groaned on a little farther and the train was clear.

Old Purdue shut down and went back again with his bucket to put out the fire that he knew would be burning under the car of dynamite. It was there, and again he fought it. Time and again he dashed to and fro. The strength of the man's body was gone, but the will of Old Purdue drove him on.

All the profitless life of the man was focused in this pressing moment to accomplish what other men might not accomplish in years.

Suddenly, from the lurid darkness beside him, the mining crew began shambling near. He heard them.

But this time Old Purdue did not need the coal-hammer to drive them. He had gained a quality, he had become a man to lead and to command.

He shouted and they ran to him! He bawled his orders and they faced death to do them!

When the fire was out he made them pinch the right-hand drivers over far enough to let her have a head of steam. Before he loaded them into their car, he selected a strong fellow to shovel coal, and again they crippled on.

About forty minutes later, Old Purdue whistled into the siding at the Lost Horse Mine, and more dead than alive sat down in the shanty where the operator was ticking away to tell how the train had arrived in charge of the man who had started out to fire the trip. After a long interchange of ticking the telegrapher handed him a paper.

It was a message of thanks from the superintendent. He was glad that there was such a man on the division, and all that. Old Purdue didn't make much fuss over it, however. What was greater than all the praise and adulation was the knowledge that, at last, he was a man.

Progress in Locomotive Building.

BY JOHN T. WALTERS.

THE improvements that busy minds are devising to make the American locomotive faster and stronger rank well up in line with the best achievements of to-day.

Since the old eight-wheel, or American type, in 1876, the steam-engine has gone through successive stages of betterment, until to-day we have the marvelous greyhound of the rails, with her Walschaert valve-gear, superheated steam, improved superheaters, and other new things; and the end is not yet. Let him who thinks that the time of the locomotive is on the wane, read this—and change his mind.

We are indebted to the American Locomotive Company for some of the information given in this article.

The Past Thirty Years Has Been the Period of the Locomotive's Greatest Development—The Importance of the Walschaert Valve-Gear and Superheated Steam in Recent Construction.

BEFORE 1876—the year of the Centennial Exposition at Philadelphia—American locomotive practise had become, to a certain extent, standardized; and certain types had been generally adopted for the various classes of service.

For fast passenger service, the eight-wheel, or American, type was almost universally used at that time. This type was also used to some extent in freight service. Where the requirements demanded a greater power than could be provided with the four coupled wheels of the American type, the ten-wheel type, with six coupled driving-wheels and a four-wheel leading truck, was employed.

This latter type was also extensively used in freight service, and, as at the present time, was considered a very satisfactory type for mixed service—that is, either passenger or freight.

In freight service, the mogul type, with six coupled driving-wheels and a two-wheel leading truck, and the consolidation type, which was a development of the former by the addition of another pair of driving-wheels, were generally used.

At this time the eight-wheel type had attained a total weight of seventy-five thousand pounds, and the hauling of three hundred and thirty-six tons on a level road at an average speed of thirty-five miles an hour without stops was considered a very good record in passenger service.

When we compare such engines with those built by the American Locomotive Company, weighing two hundred and twenty-six thousand pounds, which to-day handle the Twentieth Century Limited—the eighteen-hour train between New York and Chicago—and maintain a speed of sixty miles an hour over a level road with a train of six hundred tons, we realize the tremendous growth of the locomotive during the past thirty years.

In the ten-wheel mogul and consolidation types, weights of 84,000, 80,000, and 100,000 pounds, respectively, were common. To-day the American Locomotive Company is building a freight-locomotive for the Delaware and Hudson Company which will weigh 441,000 pounds.

Ten-Years' Development.

From 1876 to 1886 there was a great increase in the weight and power of locomotives. The development was along well-established lines, there was little departure from standard practise, and no new principles were introduced.

This period, however, saw the introduction of a new type of wheel arrangement—the decapod, so called because it had ten driving-wheels. Like the consolidation type, the decapod had a two-wheel leading truck and was merely a development of the former type to meet special conditions and provide greater power without overloading the rails.

About this time, however, a very distinct departure was made from existing locomotive practise by the introduction of the compound principle. Hitherto, American locomotive designers had given little attention to improving the efficiency of the locomotive; but now the demand arose for greater economy in operation.

Compounding was universally used in marine and stationary practise, where high duty and great economy were desired, and this principle had also been employed in locomotive practise in Europe with more or less success.

In the effort to satisfy the demand for saving in coal and water, locomotive designers in this country, naturally, turned their attention to the development of a compound locomotive adapted to American conditions. In 1889 the Baldwin Locomotive Works brought out a compound locomotive, built after designs by S. M. Vauclain, of that company.

The First Compounding.

This system of compounding was first applied to an eight-wheel engine built for the Baltimore and Ohio Railroad, and employed the use of four cylinders—a high and low pressure cylinder on each side of the engine.

The two cylinders on each side were placed one above the other, and both pistons were connected to the same cross-head. The steam distribution to the two cylinders on each side was controlled by a single hollow piston-valve operated by the ordinary form of Stephenson shifting-link motion.

A device was provided, consisting of a three-way cock operated by the engineer, by means of which, in starting, steam from the boiler was allowed to pass from one end of the high-pressure cylinder to the other, and thence through the valve to the steam end of the low-pressure cylinder.

A large number of locomotives of this type were built, but the economies effected in coal and water consumption were offset by an increased cost of maintenance due largely to the use of a single cross-head for the high and low pressure cylinders.

As the power in the cylinders was not equal, the cross-head was subjected to unequal strains, causing in many cases failure of that part and making it impossible to keep the piston-rod packing tight.

The Vauclain Four-Cylinder.

Because of these objectionable features of design, the Vauclain four-cylinder compound is but little used to-day; but it was among the first compound locomotives to meet with any success in this country, and constitutes one of the most important steps in the development of the modern American locomotive.

In the same year that the Vauclain four-cylinder compound was introduced, the Schenectady Locomotive Works brought out a two-cylinder compound engine, built under patents granted to A. J. Pitkin.

The feature of this system of compounding was the intercepting-valve, which was so designed as to admit live steam at reduced pressure into the low-pressure cylinder in starting, and prevent the pressure backing up against the high-pressure piston; and to automatically change to the compound position when the pressure in the receiver-pipe, located in the smoke-box, reached a certain amount.

This system also included a so-called separate exhaust-valve, operated by the

engineer, which permitted the exhaust steam from the high-pressure cylinder to be diverted directly to the stack and the locomotive operated as a single-expansion engine with materially increased power.

One of the first examples of this type of compound was built for the Michigan Central Railroad, and its performance was very satisfactory. Like all the earlier types of compounds, however, it has seen its day, and few of this type are now built.

Another type of two-cylinder compound engine was soon after brought out by the Richmond Locomotive Works in which the Mellin system was employed.

The Richmond compound was identical in principle with the Schenectady compound, but differed essentially from the latter in the design of the intercepting and separate exhaust-valve. From the standpoints of simplicity of design and operation, economy of fuel and water, and low cost of maintenance, it has proved very successful.

Though, as applied to two-cylinder engines, the use of the Richmond or Mellin system of compounding is at the present time limited, this same system is a distinctive feature of the Mallet articulated-compound locomotives built by the American Locomotive Company, which type will be considered later.

The Compound's Future.

The introduction of the compound engine may be considered largely responsible for another important improvement in American locomotive design—namely, the use of the piston-valve.

As the locomotive increased in size and power, and larger cylinders were used, the valves controlling the distribution of steam to the cylinders were necessarily made larger in order to admit larger volumes of steam.

At this time the flat side-valve, even in simple engines, had reached such proportions that difficulty was experienced in perfectly balancing it. The unbalanced weight of the valve put a great strain on the gear, causing the parts to spring, if not to break, and also made it hard to handle the reverse-lever.

The combined effort of the engineer and fireman was often required to "hook up" the reverse-lever. To overcome these difficulties it became necessary to evolve some new design of valve, and the cylindrical form, commonly known as the piston-valve, in which the pressure on all sides was equal, giving almost perfect balance, was introduced.

Although the first instance of the use of the piston-valve on an American locomotive antedated the introduction of the compound, its first successful application was in the case of the Vauclain four-cylinder compound locomotive, where it was necessarily employed.

On two-cylinder compound locomotives the piston-valve soon came into general use.

Making Engines Simpler.

In the application of this type of valve to simple locomotives, the Brooks Locomotive Works took the lead of other locomotive-builders.

The many advantages of the piston-valve over the balanced slide-valve, particularly its nearly perfect balance and its adaptability to any type of valve-gear, have led to its general use at the present time on simple as well as compound engines, although some motive-power men still prefer the latter type, the design of which has been improved so as to give more perfect balance.

About the time that the early types of compound locomotives were being developed, the requirements of passenger service had become so severe that they had almost outgrown the capacities of the then favorite types of passenger-engines.

In 1893, the eight-wheel passenger-engine had reached its highest development in the class represented by the famous locomotive No. 999, of the New York Central Lines, which was exhibited at the World's Fair in Chicago.

As the speed of passenger-trains increased locomotives were required with a larger steam-making capacity than could be provided in the eight-wheel type. In this type, with the larger driving-wheels required for high-speed service, the fire-box is necessarily placed between the driving-wheels, and the amount of grate area available is consequently limited. Not only is the grate area limited, but also the heating surface.

In order to secure a larger boiler and sufficient grate area to provide for the large fuel consumption required in fast passenger service, a new type of wheel arrangement was introduced in 1893 by the Baldwin Locomotive Works. This was called the Columbia type, and had a two-wheel leading truck, four coupled driving-wheels, and a pair of trailing wheels, over which the fire-box was placed.

Advantage of Trailers.

The advantage of the use of trailing wheels in this design was quickly recognized. They permitted a large grate area in a satisfactory design of wide fire-box adapted to burning soft coal by placing the fire-box over these wheels. The Columbia type, though not itself extensively adopted, was the forerunner of the types of engines which have since become the favorites for high-speed passenger service.

Soon after the Columbia type appeared, the Atlantic type, with a four-wheel leading truck, four coupled driving-wheels, and two-wheel trailing truck, was introduced, and soon became popular, superseding the eight-wheel type.

In 1901, the Brooks Locomotive Works introduced another type of high duty passenger-engine, having a two-wheel leading truck, six coupled driving-wheels, and a pair of trailing wheels. The first examples of this type, called the Prairie, were built for the Lake Shore and Michigan Southern Railway, on which road it became the favorite type of passenger-engine.

Owing to the fact that most motive-power men consider a four-wheel leading truck essential to safety for an engine run at high speeds, the Prairie type was never very extensively employed in passenger service, but is largely used in freight service.

When the weight of passenger-trains outgrew the power that could be provided with only four coupled driving-wheels, the design of passenger-engine known as the Pacific type was introduced. This was a development of the Atlantic with an added pair of driving-wheels. This type is, to-day, the favorite for the most severe passenger service, and, it might be said, has taken the place of its predecessor, the Atlantic type, on most of the roads in this country.

During this period, locomotive designers had been endeavoring to improve the compound locomotive.

The two-cylinder type had not met with the success anticipated, and although the Vauclain four-cylinder type was quite extensively used, its faults were clearly recognized.

In 1900, the Schenectady Locomotive Works brought out a four-cylinder compound in which the two cylinders on each side were placed one ahead of the other or in tandem, and the two pistons were mounted on a single piston-rod connected with its cross-head.

A similar arrangement of cylinders had been previously introduced by the Brooks Locomotive Works in 1893, but had not proved successful, owing to certain complex features of the valve arrangement.

In the Schenectady tandem compound, these faults were corrected. By setting the cylinders tandem the power of both cylinders was exerted along the same line, thus overcoming the most serious defects in the Vauclain four-cylinder compound —namely, the connecting of two cylinders of unequal power and in different horizontal planes with the same cross-head.

A number of this type of compound were built, but, as has been the case with all the earlier types of compound engines, it has been superseded by other and later types.

Increase in Weight.

The period from 1893 to 1904 saw an enormous increase in the weight and power of both passenger and freight engines. A comparison between the engines exhibited at the World's Fair in Chicago in the former year and the locomotives at the Louisiana Purchase Exposition in the latter year showed that during these eleven years the average total weight of passenger-engines had increased fifty-one per cent and the weight on driving-wheels thirty-three per cent. In the case of freight-engines, the increase in the average total weight was forty-six per cent, and fifty-four per cent on driving-wheels.

During this period, the Consolidation type had become the standard heavy freight-engine, and had reached its pres-

ent limit in power in two locomotives built for the Bessemer and Lake Erie Railroad in 1900 by the Pittsburgh Locomotive works. These engines had a total weight each of 250,300 pounds, and the cylinders were twenty-four inches in diameter and thirty-two inches in stroke.

Where the conditions required a greater weight on driving-wheels than could be provided in the Consolidation type without overloading the rail, other types of wheel arrangements were introduced.

Notable among these was the famous Santa Fe type, so called because it was first used on the Atchison, Topeka and Santa Fe Railroad. This type has a two-wheel leading truck, ten driving-wheels, and a trailing truck.

It reached its highest development in the class represented by the tandem compound locomotive built for the Santa Fe by the Baldwin Locomotive Works, exhibited at the St. Louis Exposition, which had a total weight of 287,000 pounds.

The Mikado type, having a two-wheel leading truck, eight coupled driving-wheels, and a two-wheeled trailing truck, was also developed to meet special service conditions, and is now quite extensively used in freight service.

On roads having long and steep grades, the increase in weight and power of the standard freight-engine had, at this time, created conditions which it was hard to meet with the existing types of locomotives.

The Mallet Articulated.

In order to pull a train up these grades, which the road engine could easily handle over the remainder of the road, it was often necessary to use several helpers, or pushing engines, which entailed both expense and delay in moving the traffic.

To meet these conditions, the American Locomotive Company, in 1904, introduced the Mallet articulated-compound locomotive. This type of locomotive, which derived its name from its designer, Anatole Mallet, a prominent French engineer, had been successfully used in mountainous sections of Europe for several years to meet conditions analogous to those existing in this country.

It remained for the American Locomotive Company, however, to modify and adapt this design to meet American requirements.

This type is practically two locomotives combined in one, and employs two sets of engines under one boiler. There are four cylinders compounded together. The two pairs of cylinders are connected to independent groups of driving-wheels. The rear group of wheels, which are driven by the high-pressure cylinders, is carried in frames which are rigidly attached to the boiler, to which the cylinders are also secured in the usual manner.

The front group of wheels with the low-pressure cylinders are, however, carried in frames which are not rigidly attached to the boiler, but which have a center-pin connection with the rear group, being thus, in effect, a truck which is capable of swiveling radially around its pivot.

Weight Equally Distributed.

The advantage of this type of construction is that it provides a locomotive with a short, rigid wheel-base, capable of easily passing through curves of very short radius, with the weight distributed over a long total wheel-base and a large number of axles, so that an enormous total weight can be provided without excessive weight on the individual wheels.

The first engine of this type was built for the Baltimore and Ohio Railroad. It had twelve driving-wheels, arranged in two groups of six each. Its enormous weight of 334,500 pounds exceeded anything that had previously been dreamed of as possible in a single engine.

At first, railroad men spoke of it as "freakish" and "monstrous," and predicted all kinds of failures for it. Contrary to all predictions, it has proved successful from every standpoint, and was the forerunner of what, to-day, promises to be the most efficient freight-engine of the future.

On the Baltimore and Ohio, this engine soon earned the nickname "Maud," for the famous mule which could move anything it went up against.

The articulated-compound type lends itself very readily to the concentration of enormous power in a single engine, and, since its introduction, a large number have been built for various roads.

The record for weight established by

the Baltimore and Ohio engine was soon exceeded by the construction, for the Erie Railroad, by the American Locomotive Company, of three engines of the articulated type having sixteen driving-wheels and a total weight of 410,000 pounds each.

The Baldwin Locomotive Works, as already mentioned, have recently built two engines of this type for the Southern Pacific having a total weight of 425,000 pounds; six more are under construction by the American Locomotive Company, weighing 441,000 pounds each.

Although originally introduced for helping or pushing service, the articulated type of locomotive has proved itself very efficient as a road engine; and offers the possibility of increasing the capacity of a division and moving the greatest amount of traffic over the line at the least operating cost.

What Walschaert Gear Is.

The introduction of the Mallet type of locomotive led to another important innovation in American locomotive practise; namely, the use of the Walschaert valve-gear.

In the Mallet type of locomotive, the flexible receiver-pipe between the high and low pressure cylinders being located between the frames on the center line of the engine, it was impossible to use the ordinary Stephenson valve-gear. The Walschaert valve-gear, which is located *outside* of the driving-wheels, was, consequently, applied to the Baltimore and Ohio Mallet engine.

This type of gear, which derives its name from the inventor, Egide Walschaert, was patented in Belgium in 1844, and soon became the standard type of valve motion on the railroads of Europe, even as the so-called Stephenson shifting link motion, which was invented in England about the same time, was adopted in America.

Although William Mason, one of the most prominent of early American locomotive-builders, had attempted to introduce the Walschaert valve-gear into American locomotive practise in 1876, and had exhibited an engine equipped with that type of gear at the Centennial Exposition, he did not meet with any success, as he was ahead of his time, and the American railway world was not then ready to adopt a new valve motion.

As the locomotive has increased in weight and power, the parts of the valve-gear have reached such proportions that there is hardly room enough between the frames of a modern heavy freight or passenger engine for the accommodation of a satisfactory design of Stephenson valve-gear.

With the Stephenson valve-gear, the parts are so crowded together between the frames that it is almost impossible for the engineer to give them proper inspection or lubrication.

The application of the Walschaert valve-gear to the Baltimore and Ohio Mallet engine again directed the attention of American locomotive designers to it as a means of meeting present-day conditions.

Being located outside of the frames, this type of gear is perfectly accessible for inspection and lubrication, so that it is much more easily maintained than the Stephenson gear. Moreover, by removing the valve-gear from between the frames, a better opportunity is afforded to introduce a strong system of frame-bracing, thus tending to reduce frame failures.

The principal difference in action between the two types of gears is that the Walschaert valve-gear gives a constant lead at all cut-offs, while with the usual construction of the Stephenson valve-gear the lead increases as the reverse lever is "hooked" up.

The superior advantage of the Walschaert valve-gear over the Stephenson link motion in the matter of accessibility has led to its use on all of the most important American railroads, and, to-day, it has almost taken the place of the Stephenson gear as the standard type of valve motion.

Another Improvement.

About the same time that the Mallet articulated-compound locomotive appeared, another important advance was made in the development of the American locomotive by the introduction of the four-cylinder balanced compound locomotive.

In all reciprocating engines, some provision has to be made to counteract the disturbing effects of the horizontal moving of reciprocating parts, such as pistons, cross-heads, etc. In locomotives having two crank-pins and main rods, this is accomplished by placing a certain amount of weight over that required to balance the revolving parts in the driving-wheel counterbalances opposite the crank-pin.

Except when the piston is at either end of the stroke, this excess weight exerts a vertical force due to the centrifugal action, which increases or decreases the normal pressure of the wheel on the rail according as the counterbalance is below or above the center of the wheel, causing what is commonly called the "hammer blow."

The vertical force of this excess weight is greatest when the counterbalance is at the top or bottom quarter of its revolution. In the modern high-speed passenger-engine, with its heavy reciprocating parts, this vertical force is frequently excessive, and causes serious injury to the track.

To overcome this difficulty, European locomotive designers had developed the four-cylinder balanced compound locomotive in which the driving mechanism is so arranged that the reciprocating weights balance each other.

This type of engine also provided all the advantages of the compound principle in the way of increased capacity and improved economy, and offered the means of meeting the increasing weights of trains and severe requirements of service without increasing the weight and size of locomotives, the limit of which seemed to have already been reached.

No Increase in Size.

American locomotive designers consequently directed their efforts toward modifying and adopting the European designs to meet conditions in this country.

In 1902, the Baldwin Locomotive Works brought out a four-cylinder balanced compound locomotive built after the designs of S. M. Vauclain. The first engine of this type was a ten-wheel locomotive built for the Plant System.

In the Baldwin balanced compound engine the four cylinders are placed side by side, usually with their centers in the same horizontal plane, the two low-pressure cylinders being outside the frames and the two high-pressure cylinders inside.

The cylinders are cast in two parts, with "half-saddle" as usual, each part containing a high and low pressure cylinder with their valve-chest above and between them.

Steam distribution to the two cylinders on each side is controlled by a single piston-valve, operated by a single valve-gear. In the earlier engines of this type the Stephenson link motion was employed, but many of the subsequent designs have been equipped with the Walschaert valve-gear.

In Opposing Motion.

The main rods of the high-pressure cylinders connect to one of the axles, which is cranked for that purpose, while the two low-pressure cylinders are connected to crank-pins on the driving-wheels in the usual manner.

The cranks of the driving axles on the same side of the locomotive are 180 degrees apart. In other words, when one of the pistons is at the front end of its cylinder, the other piston on that side is at the back end of its cylinder, and the horizontal or reciprocating parts are thus in opposing motion, and, consequently, balance each other without the need of excess balance in the wheels.

In the ten-wheeled or Atlantic type engines, the inside main rods are usually connected to the leading axle, while the outside main rods are connected to either the front or second pair of driving wheels, as may be preferred.

In cases where the leading driving axle is so close to the cylinders that it is impossible to connect the high-pressure cylinders to it without making the main rod too short, as in the Pacific and Prairie types, they are connected to the second driving axle.

In such cases, either the inside cylinders are inclined at such an angle that the main rods will clear the front axle, or else the main rods are constructed with a loop of bifurcation which embraces the leading axle.

Two years after the appearance of the Baldwin balanced compound engine, the American Locomotive Company introduced a compound engine in which the balanced principle was employed, built after the designs prepared by F. J. Cole, consulting engineer of the company.

In this type of compound, the low-pressure cylinders are outside the frames and the high-pressure cylinders are inside, but located ahead of the low-pressure cylinders, following the arrangement employed in the famous De Glehn balanced compound locomotive which had been so successful abroad.

In One Casting.

Separate valves are used for the high and low pressure cylinders on the same side of the engine, but these are mounted on a single valve stem operated by a single valve motion.

Both high-pressure cylinders, with their respective valve-chambers, are in one casting; while the low-pressure cylinders, with their valve-chambers, are cast in pairs with "half-saddles," in the manner usual in single expansion engines. The valve-chambers of the high-pressure cylinders are in exact line with those of the low-pressure cylinders, the two being connected together so as to form a continuous valve chamber.

This arrangement of cylinders permits of balancing the reciprocating parts and also of dividing the application of power between two driving axles with the least change from the usual construction of single expansion engines.

By placing the high-pressure cylinders ahead of the low pressure, the inside main rods can be connected to the leading axle in all the present types of passenger-engines and a good length of main rod secured without increasing the length of the wheel-base.

This also involves a corresponding increase in the length of the boiler and flues, which latter course must be followed to obtain the same results where the four cylinders are placed abreast, as in the case of the Baldwin balanced compound.

Although it cannot be said that the four-cylinder balanced compound has been generally adopted, it offers important advantages; and it would seem that the further development of the passenger-engine will probably be along the line of the four-cylinder engines—either the balanced compound, the balanced simple, or the articulated compound type.

In this connection it is interesting to note that the American Locomotive Company has recently built two Atlantic type passenger-engines for the Chicago, Rock Island and Pacific Railroad, having four simple cylinders arranged on the balanced principle and using superheated steam.

Simplicity of construction has always been the keynote of American locomotive practise. The complications in design resulting from the application of the compound principle to locomotives is one of the main reasons why the compound locomotive has not met with the success in this country that it has abroad.

American railroad officials, however, are alive to the necessity of improved economy, and the effort to effect this and avoid the disadvantage of the compound principle has led to the introduction of another important principle in American locomotive practise.

Superheated Steam.

This principle is the application of superheated steam to locomotives. Superheated steam is nothing more nor less than very hot steam. It is steam of a higher temperature than that which it attains in the boiler in being raised to the boiler pressure. By separating the steam from the water from which it is generated and passing it over very hot surfaces, additional heat can be added to it. This is what is done in a locomotive.

When steam enters a locomotive cylinder it becomes cooled by coming into contact with the cylinder walls and it becomes further cooled by performing work in the cylinder. If the steam is of ordinary temperature, a large amount of it is turned into water because of this cooling process, and passes through the cylinder without doing any work and is, therefore, wasted.

Every engineer knows that, besides doing no work, this water in the cylinders is dangerous, and, if not released,

causes broken cylinder-heads, bent piston-rods, etc. The use of superheated steam offers the means of preventing the steam being turned into water, or what is commonly known as cylinder condensation; since all the heat that is added to the steam may be given up before it is cooled down to the point of where it becomes water.

By adding sufficient heat to the steam, therefore, all the loss of power which otherwise occurs can be prevented and a great saving in coal and water effected.

Superheated steam has another important advantage, inasmuch as its temperature is increased, its volume is also increased, so that it will take a less weight of steam to fill the cylinders if the steam is superheated than if it is at an ordinary temperature. A further saving in coal and water to do a given amount of work is thus effected.

Although the advantages to be derived from the use of superheated steam were fully appreciated by locomotive designers, and although numerous attempts to apply it to locomotives were made in the early days of locomotive building, it is only comparatively recently that this principle has been successfully introduced into locomotive practise.

Recently Introduced.

In 1897, Dr. William Schmidt, of Germany, invented a design of superheater which was applied to two engines on the Prussian State Railway.

In 1904, the American Locomotive Company brought out a superheater after the designs prepared by F. J. Cole, who was also responsible for the four-cylinder balanced compound built by that company.

This design was applied to several engines, and considerable saving in fuel and water effected. Since that time over 300 locomotives equipped with superheaters have been built by that company. All of the superheaters applied by the American Locomotive Company have been of the fire-tube type; that is, a number of ordinary boiler tubes are replaced by larger tubes, in which are placed the superheater pipes through which the steam has to pass on its way from the throttle to the cylinders.

With this arrangement, the hot gases direct from the fire are utilized to superheat the steam and high temperatures are obtained, by which only can be secured the greatest advantages that are to be derived from superheated steam.

Improved Superheaters.

In the latest form of the American Locomotive Company's superheater, each of the large tubes contains four superheater pipes which, as they emerge from the tube, are bent around horizontally to meet the header or steam boxes which are located in either side of the smoke-box. These headers are divided into two compartments, and steam from the throttle enters one compartment and passes into the superheater pipes.

It flows over the hot surfaces of these pipes, from which it receives additional heat and is carried back again to the other compartment of the header, from whence it enters the cylinders.

Two forms of this design are in use, one gives a very high degree of temperature and the other a moderate degree.

Superheated steam has been used on the Canadian Pacific Railway to a much greater extent than on any other American road. The present standard superheater on this road is also of the fire-tube type, of the design known as the Vaughan-Horsey type, after the names of its inventors, H. H. Vaughan, assistant to the vice-president, and A. W. Horsey, district master mechanic of the Canadian Pacific Railway.

Following the introduction of the Cole superheater, the Baldwin Locomotive Works brought out a design of superheater of the smoke-box type, in which the waste gases in the smoke-box are utilized to superheat the steam. As the temperature of the gases in the smoke-box are not sufficiently high to give very much superheat, comparatively little economy is effected by this type of superheater, and the most approved practise, here and abroad, is to use the fire-tube type of superheater.

The application of superheated steam to locomotives is fast growing in favor in this country, and promises to be one of the most important developments in present-day locomotive practise.

THE DAUGHTER OF THE IDOL.

BY JOHN MACK STONE.

Help Comes in the Nick of Time and All's Well That Ends Well.

CHAPTER XXIII.

How the High Priest Died.

SHE came over to me, took me in her arms, and kissed my lips.

"Save Uncle Dick," I whispered. "You may escape in time."

"There is no way," she said. "Be a brave boy, Roland, and go back to the United States and tell your story. Perhaps some one will listen to you, and you can have these people punished. You must live, for you have your whole life before you."

"And what will my life be, when I know it was gained at the cost of my uncle's life?" I asked.

"You must be brave," she said again. "Show that you are a little man."

Then she kissed me again, looked long at Uncle Dick, took the captain's hand, then turned and walked back toward the guard and away from the altar.

As she left us we heard chanting, and turned to find that the doomed priests were entering the clearing under guard. They came forward quickly, and stopped just outside the circle of shells.

"What is the meaning of this?" the high priest demanded.

"It means," said Welch, "that the people will not stand by and see the great aitu desecrated again. It means you lacked the courage to attend to the duties of your office."

"I acted in wisdom and fairness," the high priest said. "I call upon you now to stand aside, and allow me to address the people."

"The people do not care to hear you."

"The law says a condemned man may have his say," the high priest said in a loud voice. "Dare you deny me the rights of the aitu's law?"

In the face of the announcement, Welch could not refuse. The high priest walked within the circle of shells, and spoke.

"When you entered the aitu's temple last night, and desecrated it by your madness, I and my priests were at council.

"You took me and my brethren from the temple, and called us condemned. We were not condemned before the sacred aitu, and therefore an execution on this sacred altar will be a profanation. We have served you long and faithfully, and this is the way you forget. Shame, my children! Where is your reasoning?"

"Enough!" Welch cried, afraid the sentiment of the mob would change.

"I will go on," the high priest declared. "I am here to save the aitu from further profanation. My people, in searching the law, we found that in a case such as this there is a way the aitu may be purified.

"The law says that at any time there is the slightest doubt of the aitu's sanctity, it may be made pure by the execution of a priest upon the sacred altar. The law further states that all the brethren, assembled in council, may select by silent lot the priest so to die. If it is your wish that the aitu be preserved sacred, we will return to the temple and go through the ceremony in the presence of the aitu.

"After the execution of the priest these prisoners may be rightfully condemned and executed without incurring the aitu's displeasure, and our temple will be sacred again and our land safe from distress."

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"No, no—it is not the law!" Welch cried.

"It is the law," the high priest said.

It is peculiar how the sentiment of a mob will change in the twinkling of an eye. Here was their high priest, a man they had respected for years, standing clothed in the dignity of his office, speaking with the voice of wisdom. The reaction was at hand.

"Let us preserve the sanctity of the aitu!" they cried. "To the temple! To the temple! Let the priests ballot! What differs it? These men must die!"

In vain, Welch tried to stop them. He knew how the balloting would result. They surged forward to kiss the garments of the priests. The procession was formed again, and we made our way back along the forest path, up the broad avenue, and to the temple. We were taken to the room of worship and placed under guard.

Then, in the silence of death, the high priest prepared the ballots. One by one the priests stepped forward and selected one, and marked it. Welch did not dare speak, for the law said a word meant death during the ceremony.

When all the ballots were marked, the high priest placed them on a golden plate, and put the plate at the aitu's feet. Then the chant began, and candles were burned. In the presence of them all the high priest counted the ballots and put them back at the feet of the idol. Then he walked across to Welch.

"The aitu claims your life, brother," he said. "Through your death it will become purified."

"It is a trick!" Welch cried to the people. "They are killing me because I took your side last night. Don't you see it is a trick? I returned the aitu to you from a foreign land. I have done many things for you."

The high priest silenced him.

"My children," he said to the people, "the brother looks at the matter in the wrong light. He is not condemned because of a fault; he has been chosen to have the greatest honor possible to one in the priesthood. What greater honor could there be for any of us, my children, than to give up our lives that the aitu may be blessed?"

"It's a trick!" Welch cried again.

"It is an honor no true son of the aitu would refuse, unless he be a coward!" the high priest replied.

"I'll show you I am no coward!" Welch screamed.

His hand came from beneath his robe, holding a revolver. The weapon spoke, the smoke drifted to one side, and the high priest lay upon the floor, blood flowing from a wound in his breast. And Welch, waving the revolver in his hand, dashed for a side door.

Then bedlam broke loose again. The other priests ran to their fallen chief.

"He is dead—dead!" they moaned.

"The high priest is dead—is dead!" the people screamed.

They rushed for the door through which Welch had disappeared. Like angry beasts they went through in pursuit.

"He killed a man in the presence of the aitu!" they screeched. "The aitu is defiled again until he dies!"

In time all of them were gone. The guards had forgotten us in the face of this great tragedy. Only the priests remained, surrounding the body of the one who had been the head of the temple. And as we watched they lifted the body and bore it into another room.

"Now is our chance!" Captain Hawson cried.

"We cannot leave the temple," said Ruth, "for they will see us. As soon as they have dealt with Welch they will remember us."

"Then we can hide within the temple," the captain said.

He ran toward one of the doors, and we followed. Through a great corridor we hurried in the darkness and into another room, and from that to another apartment in another part of the temple.

There was a window in the room, and we looked out. The mob surged about the square. They had taken Welch easily, and were carrying him down the avenue.

"Not to the execution ground," some of them were crying. "We cannot slay him there, for we are not priests."

"Then get the priests," others answered.

While some held Welch under guard, others ran back toward the temple. In a short time they emerged again, two of the priests with them. And then the crowd hurried on down the broad avenue, on the way to the execution-ground.

"It is not safe to remain here," the captain said. "They will search the temple and find us."

We left the apartment and went through another dark corridor, making our way to the first floor of the temple, and emerging in the worship-room behind the aitu.

Adjoining the main worship-room was a smaller apartment used by the priests. It had but the one entrance, and only one window, which was high up in the wall. We hurried into this room.

There were weapons there, and we seized them gladly and saw that they were properly loaded. Then the captain and Uncle Dick carried heavy furniture across the room and piled it against the door.

Then we waited for their coming.

CHAPTER XXIV.

How It All Ended.

HALF an hour passed, and we heard the mob approaching the temple, chanting and screeching.

"It will soon be over now," the captain said.

I sat in the corner, saying nothing. It was not a pleasant predicament, to say the least, and the future looked dark. Uncle Dick and Ruth Holland were standing near me, in each other's arms.

We heard the mob start to enter the temple, heard the frantic people rush from room to room below, searching for us, crying to the priests and demanding what had become of us.

There was a great crowd outside in the square, waiting for us to be captured and taken out. Their cries were fearful.

Suddenly, as we listened, we heard the tone of their cries change from anger to surprise, heard loud shouts and commands, and the sound of firing.

"They must be fighting among themselves!" Uncle Dick said.

"Pray Heaven such is the case," the captain answered. "That will give us another respite."

"Listen!" I cried suddenly, so loud that the men in the temple must have heard me.

For I had heard something other than the howling of the mob. The others heard it, too.

It was the shrill note of a bugle.

"The cruiser is here!" the captain cried.

"Thank Heaven!" Ruth exclaimed.

Then the firing in the square became a regular battle. The bugles rang out loud and clear, and mingled with the howls of rage and fear from the fanatics were the cheering cries of the marines and bluejackets as they fought their way toward the temple.

"Here, Roland!" the captain cried from beneath the window.

He helped me to his shoulders, and I stood up and peered out into the square. In regular formation the men from the cruiser were advancing on the temple, driving the fanatics before them. The air was filled with smoke which half obscured the scene of battle. The fanatics were not cowards—they fought bravely enough—but no body of untrained men, no matter how large, could stand up before the splendid discipline of Uncle Sam's navy.

Foot by foot the fanatics gave way; then they broke and fled from side to side, throwing away their weapons, screeching at the top of their voices as they rushed for safety to the jungle. And the men from the cruiser rushed for the temple doors.

"If they are only in time!" Uncle Dick said. "These men will kill us now, as soon as we are found."

I got down from the captain's shoulders, and we crossed the room to the door. The crowd was in the main worship-room now, looking into all the rooms that opened into it. The din was deafening. We could not understand what was said.

Then the assault upon our door came. We placed Ruth in a corner, and the three of us stood in a line, each with a weapon handy, ready to sell our lives as dearly as possible and reach the sailors alive if we could.

The battering at the door continued. The cries grew louder. The battle raged suddenly in the temple-room, for the sailors and marines had reached there.

"I wish we were out there," Uncle Dick cried.

"It is safer in here at present," the captain said.

Volleys of shots sounded in the temple-room. We could hear the sailors cheer-

ing; could hear the fanatics giving their peculiar battle-cry.

Which side was conquering, we did not know. The fanatics could not stand before the marines in the open; but in the temple, in the presence of the great aitu, it might be a different thing.

Again the cries of the fanatics changed in tone, and now became cries of fear. There were cries of fear in English, too.

"What can it be?" Ruth cried.

The captain had gone nearer the door, and was trying to hear.

"They are crying 'Fire!'" he said. "Some one must have set fire to the temple. It will burn like tinder!"

Outside in the large room there seemed to be a stampede. But the battering at the door continued, and in time it was forced open a little.

"Stand ready!" the captain cried. "Give it to them! We must fight our way through! Don't forget Miss Holland when the time comes!"

The battle in the temple-room still raged. Now we could hear the crackling of the flames. The door was forced open a foot, and the thick, black smoke poured in upon us.

"To the floor!" the captain cried. "Crawl toward the door!"

We threw ourselves on the floor. The smoke filled the room, and poured through the one window into the open air. We could see flames in the temple-room, could see the figures of men dashing through the smoke. They were coming nearer.

"This way! Get them out!" some one cried in English.

He was answered by screams from the fanatics. Half a dozen men showed in the smoke just outside the door. In a moment they were sprawling over the furniture we had piled there.

In another moment the furniture had been hurled to one side, and some one sprang in upon us. I raised my revolver. Captain Hawson threw my arm upward as I fired, and the bullet went wild.

"It is one of Uncle Sam's men!" he cried.

"Where are you?" came the cry.

"Here!"

"Out, all of you! Be quick! The roof will fall in a few minutes!"

We sprang to our feet, and, with Ruth in the midst of us, staggered to the door. The smoke was not so thick that the marines could not cheer when they saw us. And then we began our battle to reach the temple entrance.

There were fanatics still in the room, firing wildly at the sailors and at each other in the smoke. Before we realized it, we were hemmed in by marines, and a midshipman was issuing orders in a loud voice. We made our way slowly across the room.

I felt my head swimming, felt my lungs growing sore. The flames were all about us. Once I turned to find that Captain Hawson and Uncle Dick were carrying Ruth between them.

"On — on!" the midshipman was shouting. "We are almost there!"

Another moment, and we had reached the entrance. We staggered down the steps into the midst of the sailors and marines who had remained in the open. As we reached the monument in the center of the square, there was a great crash behind us, a cloud of smoke and flame shot into the air, and the roof and walls of the temple fell, burying the great aitu in its sepulcher of ruins.

The fanatics who remained unscathed fled in terror into the jungle.

It was the work of only a few minutes to bring Ruth back to consciousness; and then we received the captain of the cruiser, who had come ashore when the heavy firing began. Captain Hawson told his story as quickly as possible.

"I have sent men to see about this man Welch," said the commander.

As he spoke, his men returned, and a midshipman stepped forward to make his report. Then his superior turned to us again.

"Welch has found a grave in the land he tried to despoil," he said.

Then we marched down the broad avenue to the shore. The cruiser lay at anchor a short distance out, white and buff shining brightly in the sunshine. Old Glory was fluttering in the breeze at the stern.

Half an hour later we were on the deck of the cruiser.

"What shall I do about your ship?" Captain Hawson was asked.

He faced the cruiser's commander bravely.

"Send a shell into her!" he said. "If I returned to another port, I would have explanations to make. And from this time on I lead an honest life, and I cannot do it on a dishonest ship."

The two captains clasped hands.

"It shall be as you wish," said the cruiser's commander.

We stood on the bridge while one of the great guns forward barked, and watched as the shell struck. There was a roar, a crash, and the Faraway sank.

Then the cruiser sailed from the tiny harbor and started back across the Pacific. The commander had promised to land us at Honolulu.

"When I make my report," he said, "I shall treat Captain Hawson with charity, inasmuch as both Mr. Engle and Miss Holland do not wish to prosecute him for his part in their abduction. He has won their regard by his bravery. But this boy, Roland Burke, must have a grievance against the captain, too. Of course, if Mr. Burke wants him prosecuted—"

I felt my chest expand when he called me mister, and Ruth's silvery laugh rang out. For answer, I stepped forward and took Captain Hawson by the hand.

"I guess that settles it," said the commander.

It was evening, and I was standing on the bridge, when Ruth and Uncle Dick came to me, hand in hand.

"We are going to be married, Roland," Ruth said. "We wanted to tell you first of all."

"I had almost guessed it," I replied, with wisdom beyond my years. "But there is one thing I'd like to know. What was it that made Uncle Dick dislike you so when first he met you?"

Her face clouded for a moment, but when Uncle Dick put his arms around her the smiles came to her lips again.

"He thought," she replied, "that I was in league with Welch."

"I do not understand," I said.

"He thought—or rather was made to believe—that I had conspired with Welch to steal the aitu, and that it was taken aboard the cruiser instead of the yacht by mistake. Your uncle respects all religions, and has no love for one who would despoil a temple.

"Then he was made to believe that I was really going to marry Welch, that I had been playing with his heart. We met in California, at a resort, a few days before I was abducted.

"That was when I left you alone in San Francisco for two days, Roland," my uncle explained.

"We had a quarrel there," she went on. "Your uncle wanted me to marry him, and I refused, because I knew the fanatics would seek us and try to carry us back to death. He thought I refused because of Welch. He went away angry; I was angry, too.

"When he saw me aboard the Faraway he thought I had told the fanatics where to find him; that I had betrayed him to his death; that I was seeking revenge and trying to help Welch at the same time. But it is all clear now."

"I think you were both very foolish," I exclaimed. "I thought all the time it was something really important."

"Roland! Roland!" cried Ruth, laughing in spite of herself. "It was important—very important—to your uncle and to me."

Uncle Dick kissed her fondly. The executive officer of the cruiser, who was on the bridge, looked the other way.

"On the bridge!" hailed Captain Hawson from below.

"Well, sir?" asked the executive officer.

"Kindly tell that pair of lovers up there that they both need rest, and that their cabins are prepared for them. There'll be plenty of time for spooning after they reach Honolulu."

"Aye, aye, sir!" laughed the executive officer.

"And tell that boy, Roland, to come down here to me immediately. I want to talk to him. He's got fighting-blood in his veins!"

Then we all laughed, and I went down and up to where the captain was sitting. There we sat and talked until my eyes would stay open no longer. Captain Hawson put one of his strong arms around me. I felt myself lifted tenderly and carried toward the cabin.

"It's been a terrible experience," I heard him mutter. "But it has made a man of him."

(The end.)

"BUT THERE WAS NOTHIN' DOIN'."

Old Dutch Cheese.

BY HAL WHITE.

THE TRUE STORY SERIES. Mistakes will happen—even in the best-regulated railroad yards—but seldom has a mistake been recorded that caused quite such a scare as this story relates. The Eagle Eye and his mate who swings the diamond spade must have had a double-distilled shock when she began leaking like a—well, read it, and just imagine what you would have done under similar circumstances.

Why Jim Daley and Bill Markley Hustled to a Convenient Spot Behind a Hill and Waited for the Explosion That Never Was Heard.

TRUE STORY, NUMBER FORTY-THREE.

"THERE goes old Dutch Cheese."

Thus Bill Markley spoke to me as we sat on a truck at the Kourtland depot one June evening, as one of the oldest engines of the road wheezed and spluttered by to pick up a train.

"Yep," I replied.

"Did you ever hear how she come to be christened that name?"

"Nix," says I.

"'Twas 'bout nineteen one or two," he began, refilling his pipe and lighting up, "just after the Gee Grook branch of this here road was built. It run independent

EDITOR'S NOTE: All the stories published in this True Story Series have been carefully verified by application to officers or employees of the roads or companies concerned who are in a position to be acquainted with the facts. Contributors should give us the names of responsible persons to whom we may apply for such verification, in order that fruitless inquiries may be avoided. This condition does not imply any lack of confidence in the veracity of our contributors, but is imposed merely to give greater weight and authenticity to the stories.

Series began in the October, 1906, Railroad Man's Magazine. Single Copies, 10 cents.

then, and the company operatin' the same was broke a'most. The line was earnin' good money all right, but it was too heavy in debt.

The Only Engine.

"They only had one engine, with no name or number, ter do the freight and passenger bus'ness of the whole nineteen miles of road. I was firin' then, and our run was from the east end of the road at Cinnatus to the west end here. Nineteen miles and two round trips every day.

"The company had put up a big water-tank at Cinnatus, and then found out they was too poor ter buy power enough ter pump her full of water. They fin'ly fixed it with the milk-station people next to it to fill the tank from their wells by their big pumps.

"Our leavin' time fer the first trip out of Cinnatus was 8.02 A.M. About seven-forty-five, one June morning, Jim Daley, my engineer, backed the nameless power-plant to the tank, and I filled the tender to the brim.

"Everything was workin' right that mornin', until we got ter pullin' up the grade at Whytes Mills, when I discovered the steam was fallin' off. My fire was burnin' great, but I couldn't no ways seem ter make that steam-indicator show right.

"I turned on the blower, and there wasn't hardly enough power left ter blow the fire.

"Well, we struggled along until we got 'bout to East Freeville, when I heard Jim yell and seen him jam on the air, and then jump.

"We weren't runnin' fast enough ter do any particular damage by leavin' the track, and we sure did jump regular those days with that poor-ballasted road. I stepped to the side of the engine and looked fer Jim, but all I seen was his back, and that was fast fadin' inter the perspective.

"I stood there wonderin' what had hit Jim, when Al Kemp, our conductor, comes runnin' up and wants ter know what's wrong. Says I: 'Jim's gone crazy. Jumped and run! There ain't nothin' the matter, only we can't seem ter keep up steam enough ter git anywheres.'

"I hadn't no more'n got the words out of my mouth afore I heard: 'Jump, Bill—jump! She's goin' to blow up!'

"Then, fer the first time, I seemed to hear a sizzlin' an' foamin' goin' on inside that engine which didn't sound right, and there was a white fluid just boilin' out all over her. It didn't take me long ter go after Jim, then, you bet, and the whole crew followed suit. We got over behind a hill and waited fer the explosion, but there was nothin' doin'.

"After about an hour we screwed up gumption enough to go back. Ev'rything was quiet, and no trouble seemed to exist about the engine 'cept she was coated over with some white stuff, and the sizzlin' had expired.

Just a Mistake.

"We sat round fer a spell tryin' ter make out the cause, but nobody seemed ter have any explanation. Fin'ly, Jim got up on the tender and lifted the tank cover. He stood lookin' in a minute, and then motions me up. I took one look and shut the cover down, remarkin' ter Jim: 'It won't do nobody no good ter say anything about that.'

"It wasn't until after the engine had been ter the shops that any of the crew learned what the real trouble was, but they did joke us some after that about her stomach being full of Dutch cheese."

Bill sat back and puffed a while in silence. I gazed at him, wondering how the cheese got into the boiler. He, evidently reading my thought, continued:

"Yep, 'twas Dutch cheese, and one on me. You see, the milk-station people had pumped our water-tank full of sour milk by mistake, and I had filled the tender without noticing the mistake."

A semaphore-arm doesn't go up merely because somebody pulls a lever; it goes up because there is danger. There's a real reason for most things.—Cautions by the Boss.

DE BERGERAC OF THE BOES.

BY AUGUSTUS WITTFELD.

He and Monk Hastily Desert Their Auto When They Get a Jack Binns from Geraldine and Her Mollycoddle.

FATE, having nothing else on hand, engineered another meeting between Monk and the individual with the watery eyes. After an interchange of courtesies, the individual with the watery weeps inquired: "Have you had any more of those remarkable adventures since I saw you last?"

"Have I?" queried Monk. "Why, I've had the time of my life. I've been hobnobbing with the Harriman of the highways. Doing stunts in an automobile with the only and original auto hobo of America."

"If you can relieve yourself without crossing the Rubicon of truth, I believe I can pose as a willing listener without resorting to anesthetics," commented the watery-eyed one.

"The last time we met," retorted Monk, "you cast aspersions on my veracity by inquiring whether Ananias did not grace the upper branches of my genealogical tree."

"I did," replied the watery-eyed one; "but with all due respect to Annernias."

"In that case," replied Monk, "I will overlook your seeming irrelevancy, and give you a leaf from the log of my adventures with this motor marauder. One afternoon I was doing the at-home stunt 'neath the shade of the old apple-tree, when a stranger hove in sight, wiped his feet on the 'Welcome' mat, and proceeded to ingratiate himself. I entertained him with a recital of one of my adventures, after which he announced his desire for sleep."

"Very natural," interrupted the weepy one.

Ignoring the remark, Monk continued: "He requested me to awaken him should an auto bearing his crest put in appearance, and was soon pounding his auricular appendage on the herbaceous hummock, while I listened to the sighing of the wind in the branches and mused on the mutability of things in general. Lazily I watched the passing autos, and envied the favored sons of the ennui class who are handicapped by the burden of wealth and the responsibilities of rank. There's nobody to flash a red at them and chase them along a siding until the perishable produce goes by.

"There's nobody to worry them except the bucolic burgomaster who penalizes them seven-fifty for flirting with the undertaker on the only decent mile of road within the burg.

"As I lolled and dreamed, a machine came along, traveling slowly. As it drew near I noted that it contained but a single occupant, evidently the chauffeur, who appeared to be on the lookout for some one. I arose and sauntered leisurely forward.

"The only occupant asked me whether I had seen an individual meandering around who looked like an imitation of Richard Mansfield.

"I asked him for specifications as to the character in the great actor's repertory the meandering Mansfield assumed. He replied that he was not long on histrionic characterization, but he thought it was Markham's 'The Man With the Nose.'

"I associated his meager description with the personality of my guest, and informed the proud pleasure-pilot that the great Cyrano was doing the by-by act 'neath the pippin-tree. He asked me to awaken the Rostrand replica and inform him that his auto had arrived.

"'Say, sport,' I answered, 'desist your dippy discourse. Whoever heard of a weary wayfarer along Handout Highway possessing an automobile?'

"The chipper chauffeur did not deign to reply, but strode over to the slumberer and shook him. De Bergerac awoke and cast his optics over the moving-picture show. Then he indulged in a *conversazione* with the haughty autoist, who finally handed him some bills and took his departure.

"I watched him hoofing it down the pike, and wondered what I was up against. Then I approached the guest of honor, and, by judicious questioning, I elicited the information that the auto belonged to him.

"Say, pard, I've heard of pan-handlers pushing toward the Stygian darkness on proud plugs, but that was the first time I'd been up against the auto-hobo combination. Just imagine an intelligent itinerant mastering the mysteries of mechanics or getting up energy sufficient to turn the hurdy-gurdy crank of an auto so as to get a tune out of the engine.

"I expressed my doubts as to his ability to run the auto, but he assured me that he was an expert. Said he was a meandering mechanic—an M.D. of the autopathic school—and made real money doctoring the afflicted autos of the rich. Then he asked me to take a ride, and when I put up the bluff that, like the ballet-dancer, I'd nothing to wear, he dug down into the hamper and produced a couple of auto rigs, which we put on. Then he started the engine, and we climbed in. Say, sport, did you ever take your affinity to one of those gladsome groves where every one indulges in the abandon of amusement?" questioned Monk.

"Do I look like one who would lure a lady to a luny park?" resented the watery-eyed one.

"Well, there's no use negotiating the altitudes," retorted Monk. "I meant nothing impersonal. If you've never been to any of the hilarious haunts, you do not know the fascination of shooting the chutes or gliding over the undulating surface of the scenic railway like a streak of greased cosmoline. If you've never leaped along the level ways, or climbed the incline like a ricket—if you've never shot down the declivities like an Alpine avalanche bent on a mission of obliteration—you cannot appreciate the sensation I experienced on my first automobile ride.

"I abandoned myself to the novelty of the situation, and thought of the many times I had traveled in a more primitive way. Brake-beams and empty freights are all right, but the auto is the aristocrat of conveyances.

"De Bergerac certainly knew how to handle that car, and he kept her going until near dusk. We put up for the night at a farmhouse, where it happened that the host was an enthusiastic autoist, and De Bergerac so won him over by letting him talk about his machine that he forgot to make any charge for our entertainment.

"We made an early start, after an appetizing breakfast, and De Bergerac said we would take a run up to Lake Nocopo, a swell summer resort. I saw more scenery on that trip than you could see in a week traveling in the old-fashioned way. We finally reached the lake, and had our first view of the classy resort from the lower end. Around the hotel, which we could barely discern in the distance, there did not seem to be much evidence of life, the guests evidently being at breakfast.

"De Bergerac brought his machine to a stop, that we might enjoy the witchery of the scene. Coming across the water toward us was a canoe, containing a young man and a young woman. The feminine end of the combination was furnishing the motive power, while the Cholly-boy seemed to be content with looking picturesque and puny.

"On they came, gliding over the water, when suddenly that mollycoddle masculine made a fool move and upset the birch bateau. The girl came up first, and, grabbing the struggling shrimp by the back of the neck, she swam with him to the overturned craft.

"The physical-culture girl seemed to be handicapped by the swimless swain, and made no effort to right the canoe.

"De Bergerac, realizing her predicament, remarked that it was evidently up to us to do the heroic-rescue act.

"'How do you propose to capture the Carnegie-compensation?' I inquired.

"De Bergerac thought for a moment, then he jumped from the car and got busy detaching the tire from one of the wheels.

"'Say,' I protested, 'those capsized canoists are doing a Jack Binns. Don't you think you'd better let your repairs wait until we have rescued them.'

"'That's all right,' he answered, as he sprung the tire from the wheel. 'Here, get busy and pump this up tight.'

"I got onto the job, wondering whether the harrowing scene had affected his mentality. As I finished, he sprung another tire from its wheel and proceeded to inflate it thoroughly. Then he picked up the tire and made for the lake, bidding me to do likewise. When he reached the water, he jumped in, and I realized then that we were rushing to the rescue with improvised life-preservers.

"I followed De Bergerac into the chilly water. I'm no woolly water-spaniel, and I don't fancy scorching over the water on a personally conducted automobile tire. After about ten minutes' hard work, we reached the distressed damsel and her companion, and De Bergerac instructed them as to the method of putting a life-preserver on straight.

"When the pocket-edition of masculinity had gotten himself comfortably ensconced in his life-preserver, he fumbled in his coat-pocket and pulled out his card-case. With difficulty he opened it and took out a damp card. He handed it to De Bergerac, saying:

"'I feel that the conventionalities should be observed before we proceed further. Permit me to introduce myself.'

"De Bergerac glanced at the card, and said:

"'Mr. de Trop, I am pleased to meet you. Unfortunately, I have left my card-case in my auto. I am known as C. de Bergerac. This is M. Hausen.'

"The drawing-room hero acknowledged the introduction with a porpoiselike bow, muttering, 'Chawmed.'

"'Miss Geraldine,' he said, turning to the girl, 'allow me to present Messieurs de Bergerac and Hausen. Gentlemen, Miss Geraldine Pendelton.'

"Say, sport," commented Monk, "I've been up against social etiquette in all quarters of the earth, but blow me if that wasn't the first time I'd participated in a deep-sea drawing-room function.

"After the formalities had been observed, De Bergerac approached the fair maiden and said:

"'Miss Pendelton, may I have the honor of saving your life?'

"Fair Geraldine smiled her assent, and De Bergerac righted the canoe. Then, while I steadied it, he assisted her to reembark. Then he climbed in, and asked me to pass him the paddle, which was floating a short distance away. I secured it for him, and he directed me to lash the two life-preservers together. I did so, and he made them fast to the canoe.

"'I say, De Bergerac,' remarked the De Trop party, 'going to leave me here?'

"'As there does not seem to be any chloroform in the purser's cabin,' replied De Bergerac, 'I think we had better proceed as we are.'

"De Trop attempted to remonstrate, but De Bergerac swung the paddle, and we started on our triumphal journey to safety. The girl looked happy but humid, De Bergerac looked heroic and hopeful, while your humble servant and the too-much individual looked like a couple of inanimate automatons stuck in crullers.

"We proceeded shoreward, guided by the skilful strokes of the versatile volunteer, and eventually landed. De Bergerac quickly replaced the tires, and, bundling the rescued resorters into the auto, drove swiftly to the hotel.

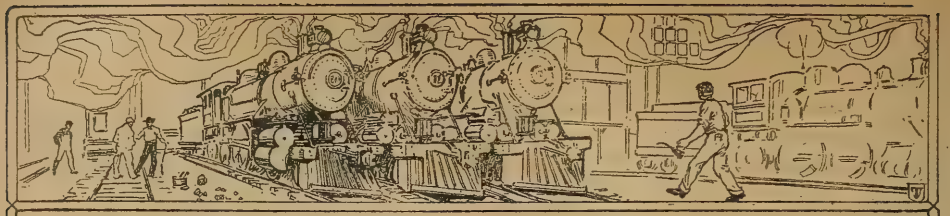
"When the guests heard of the heroic rescue, they lionized that Carnegie hero."

"I suppose," ventured the individual with the watery eyes, "that your friend with the histrionic handle married the water-nymph and lived happy ever afterward?"

"No," replied Monk, "fiction may flourish, but truth will prevail. As a chronicler of facts, I have no other recourse than to announce the union of the house of Pendelton with that of De Trop, though what she could see in that scion of immobility surpasses understanding.

"What became of the chauffeur with the courtly name?" asked the individual with the lacrimose lamps.

"The auto hobo is no more," replied Monk. "He has forsaken the open road for the closed shop of servility. He is now chauffeur-in-chief to the house of De Trop. I was offered the position of butler in the same institution, but as I know nothing about butling, I declined. If you can spare me a match, I'll light up and say good-by. *Merci bocoo.*"



THE MAN FOR ME.

BY LESLIE CURTIS.

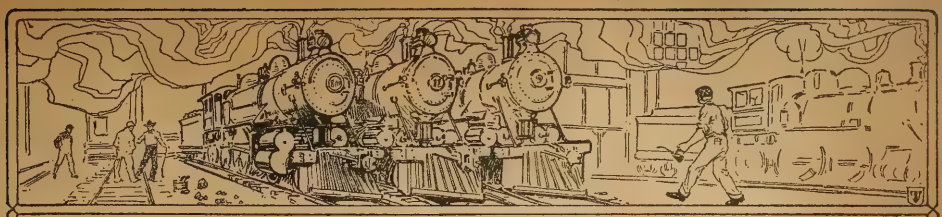
Written for "The Railroad Man's Magazine."

I MAY be only a chorus girl, but I know a thing or two.
If you've got a moment to while away, I'll put you wise to a few.
Seems strange for me to be resting here, with never a thought of care,
When I ought to be with "The Moonlight Maids," swingin' my feet in the air!

I've traveled all over this blessed land—know every burg on the map;
And you can take it from me, straight dope, it isn't much of a snap.
It's the lonesomest life in all the world, forever and ever to roam,
Especially so for a girl like me, who's crazy to have a home.

Say, that's phony dope about millionaires hanging around the stage;
Those guys ain't lookin' for song-birds to put in a legal cage.
They want the girl with the champagne taste—the one who can kick so high—
But the decent girl with the shabby dress! Why, she gets the icy eye!

That's a great old joke about virtue being its own reward—
And whenever a well-meaning dub says that, I laugh and swallow hard.
Sounds funny when I've starved and froze, because I was on the square—
So me for a large-sized, healthy hunch that the world ain't playing fair.



One morning out in Lonesome Tank, while waiting for a train,
We were tired and cold and hungry, drenched with a driving rain.
When it came at last—two hours late—and I ran out to see—
A kindly face in the engine-cab looked down and smiled at me.

The cars were full, but I found a seat and managed to sleep a while;
And into my dream came the kindly face and the sympathetic smile.
Then all at once a crash—a pain—and scream that followed scream!
I tried to wake—I couldn't move—I thought I was in a dream!

At length I came from that awful sleep in the arms of the engineer;
He'd pulled me out of the wreck, they said, and then he sent me here.
He never asked any questions; but one day, as he stroked my hand—
I told him the whole of my miserable life, for I knew he'd understand.

Say, you can have all the millionaires, but I'll take Bill Jerome;
For, while I'm lying dreaming here, he's fixing up a home.
It's never again to pike around, to starve and fear the cold—
For under his greasy working clothes there beats a heart of gold.

It's nix on the guy that owns the road, or the son of a millionaire;
They hand out bottles of Hell's First Aid and bunches of stale hot air.
But the man who is used to the world's hard knocks is the one to bless a home;
And when I get well, it's a lead-pipe cinch, I'll bet on Bill Jerome!

The Evolution of "Almost."

BY HORACE HERR.

2.—HE IS PRESENTED WITH ANOTHER MEDAL.

A Trestle Over a Crack in Arizona Catches Fire, and "Almost" Proves That He is Made of Real Hero Stuff When He Rescues Jimmy Bailey.

HAVING nothing much to do but wait for pay-day and maintain the dignity necessary to a "general foreman" at Hulbrook, I found quite a chunk of time in which I could drop grains of wisdom in Almost's vicinity. It was a revelation how near human he was.

In less than a week after I made him chief clerk he could dump a grate and pull a fire as artistically as any tallow-pot on the pike. He even knew the injector from the air-valve, and got over looking at the steam-gage to see what time it was.

In another month he knew every part on that engine by its first name, and every engineer and scoop-pusher in helper service began to take notice of him and help him along.

Of course, some of them took liberties at times, especially "Smoke" Kelley. "Smoke" liked to have his little fun every semioccasionally and Almost put in quite a bunch of time hunting left-handed bell-ropes, and on one occasion put in half a day polishing the bell to improve its tone.

But when "Smoke" liked you he showed it by every sort of a practical joke, and as he was always showing the boy little things about the engine he added his share to the general educational donation.

There were times when Almost ap-

peared hopeless. He insisted on letting an empty coal-car down from the coal-chute, and as a result he built a little church out of a flat car which was standing in on the coal-chute track about fifty yards away.

Almost didn't stop at the same time the gondola did. He knocked two boards off the sand fence which stood a good twenty feet from the siding. Outside of that he was all right, and insisted that he "almost had it stopped when it hit."

There was one great thing about Almost, when he started something he always hung around for the finish. Of course, it was up to the general foreman and the chief clerk to make the needed repairs on the gondola and the flat, so Almost had a chance to take a lesson or so in box-car physiology.

Knowing, as I did, that digging clinkers from a grate, polishing wheels, and banking fires, with putting in a brass now and then as an extra amusement, wasn't exactly conducive to intellectual progress, I was rather surprised that Almost began to show signs of "book l'arnin'."

Caught with the Goods.

He was mighty careful to hide the traces, but I caught him with the goods one day, under the engine in the pit, with the time-table spread out on his oily knees, and he was spelling out the names of the stations along the pike. He had the letters down fairly well, but what he called some of those towns would have made them pretty sore if they had heard it.

It wasn't more than a month after that that Almost came into the box-car office one afternoon about four o'clock and handed me the list of cars, initials, car numbers and all, the regular report I had to send into the terminal office every night. I looked it over and you could really read the thing.

Of course, I didn't want to embarrass the boy, so I just thanked him as if he was in the habit of doing it every day. From that day on he did, which left me nothing to do but let my salary accumulate, and look out for Almost.

Finally Maggie Mahorney informed me that Almost was taking a daily newspaper from Albuquerque. She said it in such a way that I knew without guessing twice where Almost was attending night school.

Less Title; More Money.

Of course, it was bound to come. I couldn't stand the climate very long. After six months as general foreman I decided that I would take less title and more money.

About the only thing to break the silence at Hulbrook was the sound of Jed Latroupe's wooden leg pecking along the ties as he came to the station every morning to spring an old joke of his about it 'bein' awferl dry this year,' and the rumble of the trains as they passed by. I wasn't cut out for the simple life anyhow, not for long at one time.

I wanted to get over into the train service, as I had had a little taste of that in years past and liked it pretty well, better than feeding coal to a double-doored hog, or pulling a throttle at the head of a long string of empties or full tonnage of loads.

It looked as if the T. M. would never stop off at Hulbrook, and when he did come the little entertainment kept us

"HE HAD JIMMY BAILEY'S BODY.

so busy that I forgot about hitting him for a job.

It was along in the afternoon, when every one in Hulbrook took their "shut-eye." An extra stock-train pulled up at the station for orders against the passenger-train, and J. K.—we all called the trainmaster J. K. when we didn't call him something else—dropped off the caboose and wandered up to the station.

An Air of Industry.

Jed Latroupe was whittling on his wooden leg, and I saw the old man coming, so I got busy making out a bogus report. An air of industry around a station carries a lot of weight with an official.

The stock-train pulled out, and J. K. remained to take up a few little matters of business, including an investigation of the accident at the coal-chute when Almost went coasting in the empty gondola. I told J. K. just how it was, and he told Almost just how it was, and assessed fifteen brownies against his personal record. As fifteen brownies didn't decrease his pay a bit, Almost stood for it, and went back to his stall in Jed Latroupe's livery-stable to change his clothes—for Almost had two suits now, one suit of overalls, and another of hand-me-downs from Albuquerque, which he insisted on wearing every Sunday whether we had company or not.

The Cry of "Fire!"

About fifteen minutes later, Almost came rushing into the box car puffing like an engine on a heavy grade.

"Somethin's on fire over yonder," he exclaimed.

And of course, realizing that a fire in a place where water don't grow is a mighty serious thing, J. K. and I did a handicap free-for-all for the door. It was a dead heat and we jammed.

When we finally got out on the platform, a couple of miles down the track and around a curve, we could see a big bank of grayish smoke rolling up. It looked as if it might be the bridge over the Little Colorado, but Almost 'lowed as how the only thing on the bridge that could burn was the ties, and that there was too much smoke for that.

J. K. suggested that we advise the terminal office, and Almost again 'lowed as how about the only thing down that way what would burn was that stock-train which had pulled out about twenty minutes before.

"Then we'll order the wrecker from Winslow," remarked the trainmaster and began to write out a message using the side of the box-car station as a desk.

But Almost had not been watching the red ball freight and the varnished wagons roll by, day after day, longing to be out on top of the string swinging a high ball, or wishing that he was the man on the rear platform with the blue uniform and the brass buttons, to let such an opportunity as this pass by without making an effort to land.

Getting in Line.

He couples into the trainmaster with the suggestion that the wrecker would be a long time getting over from Winslow, and there was a pusher engine down on the pit track, an old derrick on the spur, and two full water-cars near the coal-chute. It would only be a matter of switching them out and hitting the grit, to get over there.

If the fire was nothing to mention, then there was no harm done. If it was a wreck, and a string burning up, then, after all, haste was the first demand.

J. K. fell for it. Almost put himself in motion toward Jed Latroupe's livery-barn, where the helper crew had just turned in for a little shut-eye.

In five minutes they were down on the engine, which still had a fair head of steam, and then with me in the rôle of engine boss, with J. K. and Almost working the field, we switched out the cars we wanted. Then we went it wild for the cloud of smoke, leaving word with the station-agent to hold the board on everything until we got back.

At the Scene.

"Smoke" Kelley had the throttle on that old teapot, and according to Almost "he shore did crack the whip with them four cars."

The closer we got to the smoke the surer we were that it wasn't a barbecue

or an Old Settlers' picnic, and when we came around the Aztec curve, "Smoke" threw the big hole into them and even then we only stopped a few inches back of the dog-house.

Of course, the first move we made was to see how many of the crew was in sight. "Humpy" Jamison, with one side of his face hanging in ribbons, came running back toward us, as we hastened ahead. It wasn't the Little Colorado bridge that had burned out, but it was a wooden trestle over one of those cracks in the ground which you find all over Arizona.

Some of them you can jump across, but they will be as much as fifty feet deep. This one was about eighteen feet across and forty deep.

Jamison went the air route, and landed on his face on the other side of the cañon. His fireman beat it to the brush before they went in, and was all to the good, but the head shack didn't clear the wreckage, and was pinned under a car.

OUTSIDE OF THAT, HE WAS ALL RIGHT.

They had got him free of the wreckage and had him lying back on the desert. The rear brakeman was all to the good, except that when Jamison threw the air into them, the brakeman tried to butt the front end of the cupola away, and really did a good job of it too—laying his head open for a few inches or more.

But they were all alive and kicking except the captain of the ship, Jimmy Bailey. He was missing. The rear shack said that the last he saw of him he was coming over the string toward the dog-house, about midway of the train.

No, I don't care for any more mutton. Not since that day, and every time I hear the ba-ba it gives me a spell of chills. Five cars of mutton went into that ditch with the engine, and they took fire, three more cars turned over and two others were derailed, and if a human being can produce a more agonizing cry than some of those sheep did—well, just count me out.

But then that has nothing to do with the 1178 report. Just about as fast as men ever worked, Kelley drifted into the rear of the string, coupled onto the caboose, and we cut the string off behind the cars that were derailed and pulled all those that were on the track back about a mile.

In the meantime, a terrier digging after a rat could not have been more busy than Almost. He had grabbed an ax, and the way he was making holes in those stock-cars, and the way the sheep were coming through those holes—well, it was really good to see, except that the fire kept coming back toward him and he kept working closer to the fire.

He Was Heat-Proof.

I suppose living in Arizona most all his life made him heat-proof, for I know I tried to get in and help him a little and couldn't stand it. If some one suc-

ceeds in convincing me that Hades is just half as hot as that place was, I'm going to be an awful good boy all my life.

Heroism is all right in its place, but I never could see the virtue of risking your one life, er—for sheep, say—so I began to yell at Almost to climb out of it. J. K came running over and helped me cuss the idiot.

Then Jamison came up, and the rear shack would have been there too, if we hadn't sent him over to see how the other brakeman was making it out there under the shade of a cactus. Almost didn't even look up.

He was chopping away like a man gone wild. I was sure that he had suddenly lost what little sense he had; in fact, I was ready to admit right there that he had had none to begin with.

His hat was gone, his brick-colored hair was singed, you could see the blisters raising on his face, the fire was leaping about him, the inhuman screaming of the sheep penned in the burning cars, wreckage and blood every place, and him standing there like a fool boy on the burning deck eating peanuts.

Then I started up after him, but it wasn't any use. Now, I don't claim to be the real hero, but no one ever accused me of having yellow stripes along my spine.

Almost Is Busy.

I've helped pick them up in baskets and off of boiler-heads. I've faced the big works a couple of times myself and didn't let out a whimper, but to see Almost up there, cutting kindling wood with an ax, while he was literally burning alive! Well, I guess there were a couple of other fellows who said: "Now I lay me down to sleep," and wasn't ashamed of it either.

He seemed to be cutting a little hole in between two cars which had telescoped. We finally couldn't see him more than half the time for the smoke and the fire.

Finally he stepped down into the hole he had cut. I saw him grab a brake-rod and bend it back out of his way and the thing was so hot you could see the smoke from his burned hands when he took hold of it.

Once down in the hole to his waist, he shoved aside a board and bent over a little, and twice more he swung that ax, dropped it, bent over, and when he straightened up, his clothes burst into flame, and — so help me! he had Jimmy Bailey's body in his arms.

A Fast Ride.

He climbed out of that mess, staggered from one piece of wreckage to another, and fell his length in our direction.

Jamison, J. K., and myself reached them in a jump. Jamison grabbed Bailey's body and dragged it out to the side of the track, while J. K. and I beat the fire which was eating the boy's clothes. Bailey's left arm told the story.

It had been pinned in the wreckage so that it was held fast, and the only way that Almost could get him free was to cut it off. Those last two blows had done the work.

Conductor Bailey still has one arm and a mighty good body, which he says he owes to Almost, but just how completely he owes it to Almost no one knows any better than I do.

I've ridden a few fast ones in my time. There was the time Skinny Farris took me from Torreon to Jimulco, there was the time Paxton rolled me down the big divide when we expected the crown-sheet to drop every minute, but I never rode quite as fast as "Smoke" Kelley pulled us that evening in the dusk from the wreck to the terminal and the nearest surgeon.

That night Bailey and Almost occupied neighboring cots in the hospital-ward and it looked for a time as if neither one of them was going to have much use for ozone before long. Almost came out of it first.

In the Hospital.

The trainmaster was there, so was the doctor, and they let me hang around, seeing as how I got hostile when they tried to put me out. Almost came to his senses, and raised a bandaged arm to a more bandaged head and asked, "Where am I at?"

"You're in the hospital, young man, and you want to keep real quiet for a time. We'll take those bandages off your eyes the first thing in the morning."

Then the details must have come back to him. He let out a sickening groan, the kind a fellow gives up when he lays down to die and knows he's been a big failure.

"Oh, yes," he says, "I almost got him."

and Jed once I told it four hundred and eighty-seven times, but before I started in on them I hunted up Maggie Mahorney, and while we sat in her little 'dobe room I told her the story, and Almost didn't lose anything on account of me being his John Alden either.

"I ALMOST GOT HIM."

"Almost got him?" chuckled J. K. in the boy's ear, or right near where his ear ought to be. "Almost what?—you sure got him, boy. He's here in the hospital with you."

"That'll help a little," replied Almost, and a few minutes later he drifted off into a troubled sleep.

Whittled in Two.

They both got well. Of course, the next day I had to hurry back to Hulbrook, for the general foreman and the chief clerk couldn't be away at the same time, and when I got back there I found the town all but gone to the bad.

The post-office had been closed ever since the news became known. Jed Latroupe had whittled on his wooden leg until he whittled it plumb in two.

If I told that story to the station-agent

Of course, the story got out among the boys. You might hide a candle under a basket but it won't cover a burning train. And when they got wise to the real dope, there was nothing to it but a medal for Almost.

I wondered what he would do with a medal in Hulbrook where there was no one to see it, but the boys thought that was the thing to do, and as they didn't consult me they went ahead and did it. They sent to Albuquerque and had a sure enough gold medal, with a blue ribbon on it and a nice epitaph inscribed.

On a Strike.

Maybe it wasn't an epitaph, but it was something of that kind. In the meantime I got hold of the trainmaster, told him that every night I thought I heard sheep howling down at Hulbrook and my

nervous system wouldn't stand the strain, and suggested that I quit and that he use his influence to get Almost the job as general foreman.

He said he would do it. I quit and they sent another man down there to fill in until Almost grew a new crop of skin.

Well, there was a tangle in the red tape some place, and before they got around to making Almost general foreman he went out on a strike. When he went back to work as chief clerk and ex-officio guardian of Uncle Sam's post-office, the boys sent a delegation down to present the gold trimmin's.

The very next day he came into the terminal, hunted me up, and I was advised of the wherefore and why of the strike at Hulbrook. Taking Almost's own words it was after this fashion:

"Now, Mr. Thomas, I don't mind cleanin' ash-pans, and diggin' out clinkers fer your railroad, an' tryin' ter earn them forty-five pesos every month, but I'll be durned if I'm going ter trot around that town a wearin' a breastpin like this," and he produced the medal.

I talked it over with Almost, and it seems as if he really wanted a badge, but he wanted a stinger's badge—he wanted to be a real shack. He wanted the privilege of eating cinders on the smoky end, chewing sand on the desert, and digging for switches in four feet of snow.

That's all the reward he wanted, and he did want that powerfully bad. I suggested that perhaps Maggie Mahorney would like to have the breastpin, and I guaranteed to get him the brakeman's badge, a switch-key, and a lantern, for I knew how the trainmaster felt about the ungainly chief clerk at Hulbrook, and as this proved almost satisfactory to all concerned the strike was declared settled.

In the final instalment of the story of "Almost," next month, Mr. Herr tells how he earned the right to sign orders.

SIGNAL-SERVICE.

(Read the foot-notes for the last line of each verse.)

TIME-table! Terrible and hard
To figure! At some station lonely
We see this sign upon the card:
*

We read thee wrong; the untrained eye
Does not see always with precision.
The train we thought to travel by
†

Again, undaunted, we look at
The hieroglyphs, and as a rule a
Small double dagger shows us that
‡

And when we take a certain line
On Tues., Wednes., Thurs., Fri., Sat., or Monday,
We're certain to detect the sign:
⁂

Heck Junction—Here she comes! Fft! Whiz!
A scurry—and the train has flitted!
Again we look. We find it—viz.:

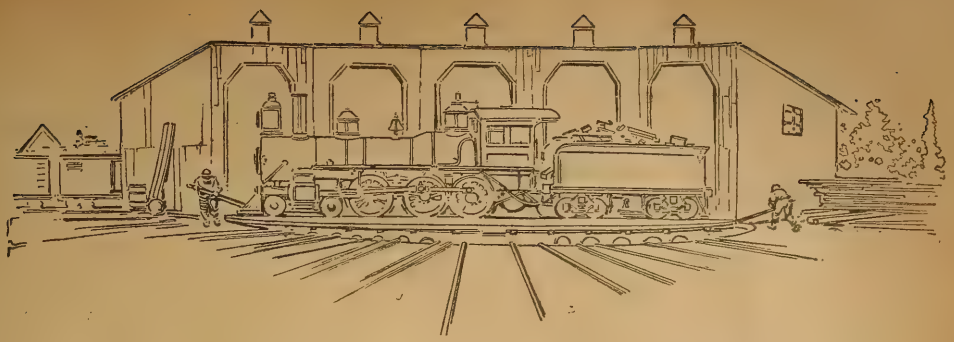
Through hieroglyphic seas we wade—
Print it so cold and so unfeeling.
The train we wait at Neverglade
¶

Now hungrily the sheet we scan,
Grimy with travel, thirsty, weary,
And then—nothing is sadder than
☞

Yet, cursed as is every sign,
The cussedest that we can quote is
This treacherous and deadly line
***

* Train 20: Stops on signal only.
† Runs only on Northwest Division.
‡ Train does not stop at Ashtabula.
⁂ $10 extra fare excepting Sunday.
‖ Trains does not stop where time omitted.
¶ Connects with C. and T. at Wheeling.
☞ No diner on till after Erie.
*** Subject to change without our notice.

—FRANKLIN P. ADAMS, in *Everybody's Magazine.*



Recent Railroad Patents.

BY FORREST G. SMITH.

It Is Apparently Such Little Things as These That Have Made the Railroads of the United States and Canada the Wonders of Industry.

EQUAL BRAKE-PRESSURE.—One of the greatest difficulties experienced in the operation of trains, and particularly freight-trains, is the equalization of the brake-pressure on the wheels. In order to simultaneously apply the brakes to the wheels of every car of the train, it is customary to maintain an air-pressure of about twenty pounds to the square inch throughout the entire brake system, and when the brakes are operated this pressure is exerted equally against the wheels of empty cars as well as against the wheels of heavily loaded cars, which vary greatly in weight, according to the character of the load carried.

This pressure, applied to the wheels of an unloaded car, will stop the wheels entirely, and cause them to skid on the rails. It will not only wear flat places on the wheels, but will cause the cars of the train to bump against each other, which is very damaging to the draft-rigging, as well as to the body-structure of the cars.

To overcome this disadvantage of the ordinary brake-systems, Frank D. Thomason, of Chicago, has patented, No. 944,058, December 31, 1909, a brake-equalizing mechanism, which is so constructed that the weight of each car of a train will result in the wheels of its trucks being moved toward their respective brake-shoes a distance or degree proportionate to the weight of the car.

As a result, the wheels of a heavily loaded car will be nearer their respective brake-shoes than the wheels of an "empty," and as the pressure exerted by the brake-shoes increases in ratio to the approach of the wheels to the shoes, greater braking pressure will be applied to the wheels of the heavily loaded cars than to the wheels of the "empties," securing the above-mentioned result.

AIR-BRAKE RELEASE.—When the brake mechanism of any car of a train becomes inoperative, the train is stopped and one of the trainmen must crawl beneath the car and cut out the brakes of that particular car. This method results in the loss of considerable time, to say nothing of the danger involved.

To obviate this disadvantage, Simon P. Cota, of Dickinson, North Dakota, has patented, No. 943,769, December 21, 1909, a release for air-brake apparatus, which may be operated from within the car to which it is applied.

The device is embodied in a valve which is interposed in a branch pipe leading from the train-pipe to the brake-cylinder, and the stem of this valve projects up through the floor of the car a short distance, so that it may be opened or closed from within the car.

As the valve-stem is turned to close the valve, an exhaust valve for the auxiliary cylinder is opened at the same time, so as to relieve this cylinder of pressure.

CONTROL FOR STREET CARS.—A novel brake-control system for "pay-as-you-enter" cars is shown in a patent, No. 945,964, January 11, 1910, issued to Frederick H. Lincoln, of Philadelphia. As it is customary in this class of cars to keep the doors closed when the car is in motion, and only open them to allow passengers to enter or leave the car, this system will prevent numerous accidents which might otherwise occur.

Motormen on such cars have acquired the habit of first starting their car and then closing the door, and it not infrequently happens that just at this moment a person will attempt to either leave or board the car, forgetting that no foothold is afforded when the door is closed or partly closed. Conductors on such cars, due, we must say, to the necessity of taking on and discharging passengers as rapidly as possible, have become careless in guarding the exit doors so that persons may leave by these doors while the car is in motion.

The system of control devised by Mr. Lincoln, while electrical in its nature, is very simple, and renders it absolutely impossible for the motorman to start his car while any of the doors are open. As there are exceptions to all rules, however, a switch is provided which may be thrown, in case of emergency, to permit of the car being started while the doors are open.

EASY SWITCHING.—A decidedly advantageous switch construction is shown in a patent, No. 946,391, January 11, 1910, issued to Archie K. Murray, of Johnstown, Pennsylvania. It has been adopted by one of the largest switch manufacturing companies in this country.

As is well known, right and left hand switches differ materially in construction, the parts in one arranged the reverse to the parts in the other. Consequently, two sets of castings must be made.

In the switch disclosed in this patent, however, this is obviated, and a single casting of each part is all that is necessary to construct either a right or a left hand switch. In this switch construction, the switch-rod carries a member which may be reversed, and the spring for normally holding the switch in one position or the other may be disposed between this member and one wall of the casing for the switch, in order to adapt it to a right or left hand curve, as the case may be.

It can be disposed between the said member and a bracket upon another wall of the casing to obtain the opposite result.

CREEPING RAILS.—Devices for preventing the creeping of railroad rails have usually been embodied in clamps or plates similar to the ordinary tie-plate, but such devices are generally too expensive for extensive use.

One of the simplest means yet devised for this purpose is shown in a patent, No. 946,411, January 11, 1910, issued to Edward T. Trainer, of Portsmouth, Ohio. Mr. Trainer forms in the base-flanges of the ordinary rail, at the proper points, openings for the passage of spikes of the ordinary construction, and through these openings are driven extra spikes, which serve to hold the rails in fixed relation to the ties upon which they are supported.

The ordinary spikes are also, preferably, employed, although their use is not absolutely necessary.

SMALLER TUBES.—Now that subways are coming into general use, improvements are being made which tend to cut down the initial expense of the construction of the way itself.

To lessen the height of the tunnel on even a short road, would mean an enormous saving. Antoine B. du Pont, of Cleveland, Ohio, has managed to accomplish this result without a counter-expense. It is true that he contemplates a change in the construction of the cars used on such lines, but the change does not mean an increase in the cost of manufacture of the cars.

The car devised by Mr. du Pont is of the ordinary construction, except that the trucks are located beyond the ends of the car instead of beneath the car, as is customary. In other words, the car-body is supported near the ground between two trucks located one at each end of the body, and, as a result, the height of the car is reduced to a degree equal to the height of the trucks usually employed.

CAR-TRUCK FRAME.—A radical departure in the construction of car-trucks is disclosed in a patent, No. 944,820, December 28, 1909, issued to Theodore W. Remmers, of St. Louis. In this truck, the connection between the journal-boxes at each side of the truck is in the form of a

frame above which the bolsters of the truck are positioned. On the journal-boxes are formed guides, in which the ends of the bolsters are guided.

Springs are arranged between the bolsters and the frame connecting the journal-boxes, and serve to support the bolsters in the usual manner. As a result of this arrangement, the bolsters are prevented from moving in a direction lengthwise of the car, and are guided in their up-and-down movement, due to the yield of the springs, in a true vertical direction.

SWITCH PIVOT.—In a switch-point pivot, the principal wear is at the pivot and on the under side of the switch-point or tongue. Heretofore, it has been difficult to take up this wear, except by tightening the pivot, which, as a matter of fact, only compensates for the wear of the under side of the tongue.

A switch-manufacturing company has adopted a patent, No. 946,349, January 11, 1910, issued to Heenan S. Goughnour, of Johnstown, Pennsylvania, which covers a switch construction in which the wear of both of these parts is automatically taken up.

In this switch there is a tapered projection on the floor of the switch, which fits into a similarly formed recess in the butt end of the switch-tongue, but this recess is of a depth greater than the height of the projection, so that, as the pivot wears, the tongue settles and the wear is taken up.

It will be understood, of course, that the projection and the recess in which it is received affords the pivot for the tongue.

ANSWERS TO PATENT PROBLEMS.

Every reader who has a problem relating to patents is welcome to the services of this department, and a letter addressed to Mr. Forrest G. Smith, or to the editor, will receive attention as early as possible.

F. R. S., Cleveland, Ohio—(1) How should an inventor proceed in disposing of his patent on a railroad device?

(2.) Is it advisable to place a patent for sale with a patent selling agency?

(1.) The best method is to have some company place the device in use on a short line of their way and test it thoroughly. If it does the work better than present devices and is not too expensive, you will find no trouble in disposing of the rights. If this method proves too costly, a small *working* model placed with a large railway company will probably do the work equally as well.

(2.) There are numerous agencies of this character now in existence, and many to the sorrow of the inventor. The usual scheme is to collect a certain sum for advertising, which may or may not be given, depending upon the reliability of the concern. In any event, the chief motive is to get the money for either newspaper or correspondence advertising, neither of which are of any avail to the inventor of railway appliances. The method mentioned above, with a few exceptions, is the best and only reliable one to follow.

H. R. R.—Is it advisable for a patentee in this country to apply for patents in all foreign countries?

No. The general rule in such matters is to apply only in the countries in which the device is liable to be in actual demand. Furthermore, devices which would be useful in railroading in this country would be worthless, as a rule, in other countries. Of course, there are exceptions, but they are few, and definite advice can only be given regarding specific questions in this line.

S. B.—The Patent Office procedure is as follows: Applications for a patent must be made in writing to the Commissioner of Patents. The applicant must also file in the Patent Office a written description of the invention or discovery, and of the manner and process of making, constructing, compounding, and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and in case of a machine, he must explain the principle thereof, and the best mode in which he has contemplated applying that principle, so as to distinguish it from other inventions, and particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery. The specification and claim must be signed by the inventor and attested by two witnesses.

Sum men wil sleep w'en Gaybreeal blows his wissel; tho' the boss ses I aint no aingel.—The Call Boy's Complaints.

STUNG! BY HECK!

BY EMMET F. HARTE.

Bub Spivens Sold the Farm to Nate Fisher and Deftly Settled an Old Grudge.

"THERE ain't no gettin' round it," remarked Smiler Tillery, local hog buyer and shipper, as he sat on a nail-keg in Scudder & Son's store at Mud Lake. "Bub Spivens is a slicker. They talk about us farmers bein' green, and makes jokes in these here funny papers concernin' how we bite greedy as get out at everythin' that comes along, but none of that applies to Bub Spivens, by jinks!"

"What's Bub been up to?" asked Uncle Henry Hatfield. The rest of us, in solemn conclave assembled, waited for the answer.

"Bub's sold his farm," asserted Smiler.

"Sho!"

"Git out!"

"He ain't, neither."

"Who to?"

Which comments would indicate that Bub Spivens had pulled off an event of more than passing interest.

"It's a fact," maintained the witness stoutly. "And, what's more, he sold it to Nate Fisher, down in K. C."

This further insight into the subject having provoked another chorus of remarks, incredulous and otherwise, Smiler fired his last shot, which was a stunner. "And, to cap the climax—to put the fixin's on the whole business," he said, "Bub got ten thousand dollars in cold hard cash for her. I seen and helped heft the money."

There are occasions which cannot be met by the mere futility of enunciated words, and this was one of them. Smiler had floored the bunch. Even Uncle Henry was knocked speechless, which was some business, as they say in Mud Lake.

Smiler, elated, began his story:

"You know, when old Jed Spivens died last fall, aged eighty-one, without a relative on top of the earth anywhere, he left a will. Squire Brown drawed it up, as you all know without me tellin' you; and you all know, besides, that Bub, who took care of the old man the last ten years or so, and was a mighty favorite of his too, heired all old Jed had, which wasn't much, as it turned out.

"Bub never was adopted according to court by old Jed, but he always went by the name of Spivens, just the same. What *is* Bub's real name, Uncle Henry?"

"Well, now," said that old gentleman, taking off his glasses that he might wipe them with his blue bandanna, "I'll have to calc'late a bit. Bub's ma was orig-'nally Susy Whittington; she married Steve McCoy when she was sixteen, about. I recollect the winter they married was the hardest winter we ever seed in these parts. Froze ice four foot thick on the river, and snow kivered all the fences. Seth—aw, what wuz his name? A'terward wuz sheriff two terms, an'-a mighty good one, too—Jennin's, that's it.

"Seth Jennin's driv' a team o' mares he had right smack over the snow-crust an' ice on the river into Atchison, by hoky! Thet wuz a slatherin' fine span o' mares, too; they'd be wuth, to-day—"

"Yes; but what about Bub's pa's name?" interrupted Smiler. "That was what I ast you, wasn't it?"

"I wuz jest gittin' to it, blame ye!" said Uncle Henry testily. "When Steve McCoy died, Susy had two or three small chillun; but they wuz all girls, accordin' to my recollection. They growed up an' married. One married Jedge Carter's second oldest boy; one ether'n married Art Peterson, an'—let me study! What

went with thet uther McCoy girl? Seems she died, by hoky! I'm sure she did!

"She died the fall we had such a slam-bangin' crop o' fruit! Why, apples rotted on the trees thet year, what didn't fall off an' rot on the ground; couldn't sell 'em at no price. Charley Walker had the old Lemuel Martin place rented, an' he told me himself—"

"Shet up, or tell who Bub's pa wuz, if ye know," broke in Major Jeffries impatiently.

"A man by the name of Fugue or Pugue moved here fr'm Kentucky," continued Uncle Henry, unruffled. "An' the follerin' year this man Pugue's cousin come out an' rented the Martin place I wuz tellin' ye about. His name wuz Baird. He got to comin' to see the Widder McCoy thet fall, an' about Chrismus they up an' got married. A tree fell on Baird an' killed him a'terward, an' Susy finally married thet good fer nothin' Bill Dittrick. Bill Dittrick wuz as onery an old slip-scutter as ever breathed—whut did ye say, Smiler? Yes, thet's right. Bub wuz this Baird's boy—"

"As I was about to say," resumed Smiler, "what Bub heired didn't make him rich, though old Jed was once pretty well off, and about a week ago he took a notion he'd go down to Kansas City and see if he couldn't get him a job in a wholesale house or something.

"He come to me Thursday, a week ago, and wondered what chance he'd have gettin' to go down some time on a pass when I was shippin' a car or two o' hogs.

"'Best in the world, Bub,' I said. 'Come around Monday, and I'll fix you up. Want a pass for both ways?' He allowed that he didn't; he guessed he wasn't calculatin' on comin' back for a spell if he could find anything to do.

"'All right,' I said; 'I believe I'll run down myself. You come along about six o'clock Monday mornin', and we'll go together.'

"He was on hand, all right, luggin' his grip, and we piled into the caboose and hit the trail.

"'Smiler,' he says to me, 'kind of watch around after me the first hour or two when we get to the city to see that

"BUB GOT TEN THOUSAND DOLLARS IN COLD HARD CASH FOR HER."

I don't get run over by one of these autymobiles or somethin'. Ye know I'm a mighty green customer away from home. Atchison is the biggest place I ever was in,' he says.

"'Don't you fret, Bub,' I told him. 'You'll be all right, with me to watch after you. K. C. streets ain't so wide but what you can get across, safe and sound.'

"Well, Bub and me got off the train down in the yards, and while they was switchin' the stock around to where they belonged we went over to a restaurant and got dinner. Bub left his grip there, and we started out to find a boardin'-house for him. He said he had about ten dollars in money to tide him over till he struck some kind of a job.

"We looked into two or three places on the way up-town, but they didn't seem to suit Bub for one reason or other. He allowed they were too dark and stuffy, and he didn't intend to risk his health stayin' in no such unsanitary rookeries as them. He said he'd pay five dollars a week before he'd do it—"

"Thet wuz jest right, too," interrupted Uncle Henry. "Look at Mace Jordan, thet went down there to study dent'stry. Roomed in a three-dollar-a-week boardin'-house, an' come home with the consumption. Died inside o' six months and—"

"Bub found a place he liked d'rectly, and paid a dollar down to hold it till he brought his grip, when he was to fork over the other two and a half. Then we went down-town to see the sights. You ought to seen Bub countin' the stories in the tall buildin's. He shore enjoyed 'em.

"'Smiler, just think of the money it took to build these here stores.' He pointed out one ten-story buildin', and said he'd pretty near bet that it hadn't cost a cent less than a thousand dollars to build. I just laughed at him.

"Just about then somebody hollered acrost the street at us, and who'd you reckon it was but Nate Fisher—"

"That low down cur," said the Major. "That Nate Fisher skinned everybody round here he ever had dealin's with. We all know that he raised that note he held on old Jesse Winthrop fr'm a hundred dollars to nine thousand, an' made the widder pay it—"

"Yes, an' all thet saved him wuz thet it couldn't be proved on him, by hoky!" said Uncle Henry. "Nate Fisher would rob his own ma an' her down bed-fast. Why, I recollect once when he swindled me out of a span o' mules—"

"Yes, Nate had a little office with a sign on it that said, 'Real Estate, Loans and Insurance,'" Smiler resumed, "and he was standin' in the door. 'Come over,' he said to Bub and me. We felt to see if our money was safe hid in our inside pockets and went over. Nate was as friendly as all get out.

"'Well, well,' he went on, when we got inside and took chairs in his little office. 'I ain't seen anybody from Mud Lake for a year of Sundays. How's everything? Still clerkin' in the store, Smiler?' I told him I was buyin' and shippin' a little stock now and then. He allowed that was a good line of business.

"'How's old Jed Spivens stackin' up, Bub?' he ast. 'I s'pose you an' him are still operatin' the hundred and fifty acres down on the river?'

"'Jed's dead,' Bub told him.

"'Well, well,' he said, mighty surprised. 'A right nice old man Jed was. You was his sole legatee, wasn't you, Bub?'

"'How's that?' ast Bub, puzzled.

"'You heired what he had, didn't you?'

"'Yes, but—'

"'Sold the old farm yet, Bub?' Nate broke in without waitin' for Bub to finish what he started to say.

"'Nope,' said Bub.

"'What'll you take for it?' Nate come back with.

"'Aw!' Bub kind of grinned. 'I wouldn't want to swindle you. That there farm of mine is—'

"'Never mind,' said Nate. 'I know what she is. Of course it's run down an' all that, but it's good bottom land an' well watered, bein' on the river—'

"'Yes, it is,' Bub agreed.

"'I'll give you fifty an acre for her, Bub,' Nate said. 'Sight unseen, take it or leave it. What d'ye say?'

"'Aw, say, now, Nate,' Bub commenced. I saw Bub appeared to be kind of confused, so I butted in.

"'Give him time to think it over, Nate,' I said. 'Fifty an acre is a fair

price, but there's lots of land round Mud Lake sellin' for as high as seventy-five an acre now.'

"'Yes, but them kind of places has mighty good improvements,' he said, 'and you must remember I'm offerin' spot cash. I'll write you my check for the total amount right now. What d'ye say, Bub?'

"'Of course,' he went on, 'it's understood that you can give me a clear title to the place—'

"'Yes, that part's all right,' said Bub. 'I've got the will an' all the papers in my pocket right now. There they are. But—"

"Nate was anxiouser than ever when he'd looked over the will an' seen that Bub was the sole heir to the farm. 'No buts goes,' he said. 'I won't hold this offer open, Bub. You take it now or it's all off. What do ye say?'

"'Well, to tell the truth—' Bub looked like he hated to tell the truth just then—'I've had a better offer than that, Nate, so I can't do nothin' for you.'

"That set Nate afire right away. 'Why, I've turned down sixty dollars an acre for it once,' Bub went on. 'I wouldn't be likely to take ten dollars less'n that just 'cause it was you, would I?' And Bub never cracked a smile.

"That stumped Nate for a minute, in fact it stumped me. I was beginnin' to suspicion that Bub was foxier than he looked, so I kept still. Nate raised his bid to sixty-five but Bub didn't show much interest. Finally, he kind of yawns and says to me:

"'Come on, Smiler. Hadn't we better be goin'? We're just takin' up Nate's time for nothin'.'

"'Bub, I'll give ye ten thousand dollars in cold cash for that farm,' said Nate, as we got up to go. Bub studied it over a minute.

"'Have you got the actual cash here,

"I'LL SET UP THE SARDINES IF IT WASN'T IN YELLOW BOYS AND GREENBACKS."

where I can look at it? No check, you know,' he said finally.

"'No, but you come along with me to the bank an' I'll get it,' Nate said. 'You bet ye! It won't take ten minutes. Smiler can wait here an' amuse himself in the office watchin' the crowd go by till we come back.'

"Well, in a quarter of an hour they come back with some sacks and packages, and I'll set up the sardines to the crowd if it wasn't ten thousand dollars

in yellow boys and greenbacks. Bub had chose what he could carry handy in gold and the rest in big bills. I had to heft it once in my hands just for luck, by George! It was some money, I say.

"Then we went in next door to where there was one of these fellows that makes out deeds, and Bub signed over the farm to Nate, shook hands, and away we went with the money, all we could lug.

"'Wasn't you ashamed to do it, Bub?' I ast him, as soon as we'd put fifteen or twenty blocks between us and Nate.

"'I would've been, if it hadn't been for one thing,' he said. 'Once, when I was a little kid, I lost a five-dollar bill—the only money I had, an' I'd been savin' it up by nickels an' dimes for three months to do the fair with. An' Nate Fisher found it, an' kep' it. I *know* he found it, an' I'm shore he kep' it.'

"'Le's go somewheres,' he said, 'where we can buy us some dollar seegars an' hire one of these autymobiles to take a ride around town in.' And that's what we did, you bet."

There was an uproar of laughter and comments when Smiler finished. Even the major unbent himself enough to express his satisfaction in no half-hearted terms, and Uncle Henry Hatfield laughed until the tears dripped from his chin. He had once dealt with Nate Fisher in a horse trade, and revenge was sweet.

One man in the company did not join in the hilarity. He was a traveling salesman from Saint Jo.

"What is the funny part of it all?" this person queried. "Wasn't the farm any good? What the—"

"Don't ye ketch on?" Uncle Henry said. "This here farm o' Bub's wuz swallered up in the hungry maw of the Mizzoury River durin' the last two June rises. Ever' bit of thet farm is caved into th' river. Ther' ain't enough of old Jed Spivens's place left to plant a turnip on!"

"Where'd Bub go to, Smiler?" asked the major.

"The last I seen of him, he give me a hundred-dollar bill to keep to remember him by and got on the train for Seattle," said Smiler. "And he was togged up like a banker too, I say."

EDUCATING SIGNAL-MEN.

WHILE it is, perhaps, too much to say that each successive development in the "art of signaling" demands a higher degree of technical knowledge and skill on the part of the average signal-man, it is true, nevertheless, that the general improvements in quality and increases in quantity of signal and interlocking apparatus occur so rapidly that the signal-man's responsibilities are constantly becoming greater.

The growing demand for books on signaling and allied subjects, and for other means of individual study, is evidence, however, that he is preparing himself to meet the new conditions.

Of great interest in this connection, are the methods which various signal departments are adopting to place educational facilities within reach of their members. Some of these take the form of class instruction, conducted at some central point where, at intervals, the men within reach assemble for general work in certain fundamental subjects and for open discussion of their problems and the methods of solving them.

Others are more in the nature of individual instruction, such as the examining of one man on his knowledge of a text-book previously given him to read, or upon the rules of conduct in certain cases and the reasons therefor; or, perhaps, a series of private lessons in a prescribed subject given by a superior officer.

In all cases the methods employed are those best calculated to meet the existing conditions. The comparatively large proportions which some of the educational movements have attained speak well for the signal-man's appreciation of his opportunity, and the railroad's realization of the value of a better-equipped employee.—*The Signal Engineer.*

A yard engine can make a flying switch better than a mogul. Each to his job.—Remarks of a Hostler.

OLD-TIMER TALES—No. 3.

The Record of 999.

BY REMSEN CRAWFORD.

IT is seventeen years since engine 999, of the New York Central, reeled off what was then the fastest mile on record. With one exception it is still the record. We have built heavier engines, that would pull longer trains at a higher rate of speed for more hours than would the 999, but that wild dash for the world's record has been "gone better" but once.

Naturally, an engine built for speed, and made to produce it day in and day out, could not be expected to last long at that sort of work. Old 999 served her time as a thoroughbred, and dropped back to the cart-horse class for a time, finally finding a comfortable place among the family dobbins of the rail. She is still to be found in the latter class, receiving the reward of a long and useful life.

Career of the Engine that Established a New World's Record for Speed in 1893, which Has Been Beaten But Once Since That Time.

A LITTLE while ago I mingled with the throng of happy home-comers, flocking like migratory birds from the Thousand Islands of the St. Lawrence River. The little town of Clayton, New York, nestling close beside the upper neck of Lake Ontario, was literally filled that day with its annual pilgrimage of summer tourists.

Like a veritable army, they came on lake or river craft, and crowded about the railroad station, clamoring for baggage-checks, chattering like magpies, and driving the ticket-agent to madness with a million questions.

Out in the railroad yards the engines were holding high carnival, their clanging bells and coughing smoke-stacks sounding for all the world as if each of them had a story to tell, and they were trying to talk, all at once.

Presently, there came a distinct peal from a bell—more nervous, more earnest, wilder than the rest. It carried the unmistakable expression of a locomotive entering a city after a wearisome journey, and soon the massive form came in view at the head of a train of passenger-cars, like a black giantess with a string of toys.

Nearer, clearer came the wild warning, clanging tone, as the giantess pulled in and glided to a halt alongside the platform.

Meeting an Old Friend.

I began to run my eyes over the perfect form and figure of the great iron creature before me, a habit I formed years ago when my duties threw me with machinists

and railroad experts. There was something familiar about this colossal engine —familiar as a letter from home.

I was wondering where I had seen her before, when there shone forth from her shielded breast that historic, magic name —999!

I had found an old acquaintance in the crowd. Thirteen years ago I had been introduced to her in Chicago by Charley Hogan, the daring engineer, who loved her as he would his bride. Even then I had not felt as a stranger in the presence of 999, for who had not heard of 999, with her record of a mile in thirty-two seconds?

She it was that revolutionized railroading; that set a new pace for express-trains; that brought Chicago nearer to New York, and became the pet of the plutocrats who owned her, the pride of the nation which adored her. Yes, I knew every chapter of her life.

Like thousands of others, I had read of her birth in the smoky shops of the New York Central, in April, 1893; how she had been hailed as a creature of destiny, fashioned as she was for the mission of mocking at all the records of speed; how she had gone forth, and with greatest ease torn these records asunder on her first trip, sending word to Cornelius Vanderbilt to put on the dream of his life—his twenty-hour train to Chicago.

I knew how she handled that train in the years that followed in a way to scatter consternation among the Britishers, with their East Shore and West Shore flyers, by settling upon this country the championship of fast long-distance travel.

Her Last Days.

I had seen her there at Chicago on exhibition, in the heyday of her triumph, where thousands of World's Fair visitors thronged about the pedestal where she sat like an enthroned queen of iron, twirling her great drivers. I had seen her flying through country towns.

I had seen her in the Grand Central Station at New York, when mechanical engineers and all manner of men of constructive genius gathered around her for study.

And here she was, at last, lost in oblivion to the great main line current of traffic, pulling a train of cars on the Rome, Watertown and Ogdensburg Division of the New York Central, between Syracuse and Clayton.

"How are the mighty fallen!" was my first thought, and I looked with a sort of sympathy upon the handsome creature, which seemed to speak like something near human, with her air-pumps groaning and breathing as if winded and worn out by the journey she had just made through the clover-covered hills of northern New York. I wondered what had become of this world-famed locomotive all these recent years, when nothing has been heard of her.

Mr. Vanderbilt's Orders.

I was anxious to get accurate, reliable information about her history in detail, and determined to put myself in communication with all those who have been her keepers and her associates since she was first led out of the West Albany shops to awaken the world.

From W. O. Thompson, division superintendent of motive power of the New York Central at Oswego; John Howard, the superintendent at New York; and Charles H. Hogan, now division superintendent of motive power at Buffalo, and formerly her engineer, who was with her when she broke the world's record, I have gathered the full story of 999.

Engine 999 first glided out of the railroad shops of the New York Central at West Albany one morning in April, 1893. One of the Vanderbilts had given orders for an engine to be made that would travel faster than anything under steam had traveled.

He had watched the advances in railroading and locomotive construction in England and at home. He had a keen sense of the competition that was increasing every day among the railroads of America.

He had studied the nature of Americans, and knew that they were a people of great haste and impatience, willing to take risks beyond all other peoples of the world to gain a point. He knew that the competition of great American trunk lines for the future was essentially a competition in speed.

Besides, that was the year of all years

for the great Vanderbilt system of transportation lines to make a showing. It was a festival year in the progress of the American Republic—the year of the Chicago World's Fair, the greatest exhibition of things industrial ever known.

Cutting the Time to Chicago.

"We must bring Chicago several hours closer to New York," he said repeatedly at meetings of the directors of the New York Central. "We have spent millions to make the road-bed safe and sound. What we want now is an engine that will go the gait.

"Have one built at any cost. Put drivers on her big enough to cover a good jump at every stroke of the piston-rod, and put enough steam into her cylinders to keep those drivers busy."

The order went to the master mechanics, and they set to work. The outcome was 999, a greyhound of iron.

When she rolled out of the West Albany shops that April morning, Charley Hogan was there to take her in hand. He was an experienced engineer, a man of nerve and determination, whose whole life centered in his work, and who, on many occasions, had shown himself ready when danger lurked about his path of duty.

"Take that engine and break the world's record," was the order Hogan received.

"Give her to me just one day ahead of the test," he replied. "I want to take her for a gallop all on the quiet, just to see how she behaves herself."

A "Warming-Up" Canter.

He was told to take 999 for as long a time as he wanted to make the tests prior to putting her on record publicly. So the first day out was all for Charley Hogan's personal benefit and satisfaction.

Hogan looked at the great driving-wheels, taller than himself, and knew that with their seven-foot diameter they would cover twenty-two feet of rail at every stroke from the cylinders. He examined all the machinery and gear, and noted wherein it differed from other engines he had ridden.

He knew the laws regulating steam pressure, and the power such pressure would engender. He was thoroughly informed as to the inward nature of this new departure in locomotive construction. All that remained was for him to get the work out of 999.

With a feeling of pride, he sprang into the cab and flung himself on the seat beside the throttle. Shining in the sun like a jewel, 999 glided as gracefully as a sprite over the side-tracks and onto the ponderous steel rails of the main line.

Charley Hogan touched the throttle again, and the massive engine bounded forward, sensitive as a tender colt under the lash. On and on she sped at a swift clip, each time smarting under a pull at the throttle, and hissing like a wild panther with each flush of steam.

Now and then Hogan closed the throttle by degrees, and saw that 999 slackened her speed quite as obediently as she had picked it up when the throttle was opened. He tested her brakes time and again, and saw that they would warrant him in taking the bridle off if he chose, but Hogan didn't choose to that day.

The Real Thing.

His stop-watch had told him that 999 was already a record-breaker, and he wanted to have something up his sleeve in the way of a surprise when the time came for him to make the real public run.

He did not get all out of her that he knew to be in her on that trial trip; but when he took her to the roundhouse at Syracuse, that night, he had established a record in her favor of one hundred and two miles an hour, and he knew by the way he saw her bound ahead at the slightest touch of the throttle that she would go faster.

It was on May 11, 1893, that the real test came—a race against every locomotive engine on the face of the earth. Charley Hogan was ordered to take 999 to Syracuse, meet the Empire State Express there, couple onto the train, and take it to Buffalo as fast as he could.

By this time it was generally known that this new engine was out for the scalps of every engine in service. Speculation ran high in railroad circles as to whether the locomotive could do what had been mapped out for her.

Hogan had kept his little joke all to himself. He knew that 999 could "deliver the goods."

He played with her a trifle after the city of Syracuse was behind him, just to see if she was in the same humor as when he first tried her out. He saw that she was. If anything, she seemed all the more anxious to be turned loose, but Hogan held her down to an easy gait, and made Rochester on the minute.

A New World's Record.

He knew his road-bed better between Rochester and Buffalo. He gave the throttle a nice little squeeze, and 999 sprang forward like a nimble horse. Approaching the town of Batavia, she was rushing along at an easy gait.

Hogan touched the throttle again, and held his hand there while he watched his timepiece. Then it was that 999 shook herself with a tremble as a racehorse does when a jockey digs the spurs into its flanks, gave the cars a suggestive jerk, and settled down in earnest.

She equaled the world's record with great ease, making a mile in thirty-five seconds; and Charley Hogan looked at the fireman and smiled. He pulled again at the throttle, and murmured to himself: "Now, then, we'll go after that record, and set a new pace for the world."

This seemed to be what 999 had longed for all the time, for never before had Hogan pulled his throttle wide. Her great drivers sped round beneath her with marvelous rapidity, each time they turned throwing the great mass of iron twenty-two feet forward. Charley Hogan was all eyes then, for he had to keep a view of the track ahead and watch his timepiece too. The other timekeepers on the train were all busy with their watches.

Telegraph-poles multiplied in Hogan's vision as they had never multiplied before. With a buzzing of air, the engineer vaguely saw the mile-post ahead, and fixed his eyes upon his watch. The mile had been covered in thirty-two seconds. The world's record had been beaten for a single mile by three seconds, and Hogan sped on at the same gait to Crittenden, many miles farther.

That very day the executive committee of the New York Central Railroad held a meeting, and waited for the news from 999. When it came, they voted to put on the twenty-hour train between New York and Chicago. They also determined to put 999 on exhibit at the World's Fair, and Charley Hogan was sent along with her.

The engine and her master were greeted there by thousands, and 999 became almost a household word. She had established a gait of 112.2 miles an hour, which had never been dreamed of, and which has been excelled but once since, when the Philadelphia and Reading ran a train 4.8 miles in two minutes and thirty seconds near Egg Harbor, Pennsylvania, in July, 1904, which is equal to 115.20 miles an hour.

Afterward, 999 was brought back East and put in service as the star engine of the Empire State Express, Charley Hogan still at the throttle. On various occasions he turned her loose, each time showing that she was true to the record she had set.

Her service for several years also proved that the public notion that she was built as an advertisement only was false. The engine did excellent service in pulling with safety and at great speed heavy trains of cars on both the New York and the Buffalo divisions of the line.

Hauling a Milk-Train.

As travel increased, however, the demand for a more powerful engine grew, and the type now in use for pulling the Empire State Express is much heavier, much stronger, and also very speedy, though the record of 999 has never been equaled by any of the newcomers.

Strange as it may appear, neither of her twin sisters, 888 and 777, equaled the speed test that 999 bore so easily; and equally strange it is that, although Archie Buchanan, Ed Chase, and half a dozen other crack engineers have handled 999, she has never consented to show her speed with them at the throttle as she did to Charley Hogan.

After she had been replaced by stronger locomotives on the main line, 999 was put to hauling a milk-train. In this ludicrous rôle, she became the target for the bright and witty fellows of the press, and one of them printed a very pathetic in-

terview with the old engine, which he said she gave him on a side-track in the freight-yards of the New York Central.

Her wheels were cut down from eighty-four to seventy inches, and she was sent to the R., W. and O. Division for use. Division Superintendent of Motive-Power W. O. Thompson thought too much of her to give her an ordinary task, and she is now pulling what is known as the Syracuse and Clayton Club train, which is ordinarily composed of a buffet-car, three parlor-cars, and two first-class coaches.

The schedule puts a speed on her of about forty-five miles an hour, and she handles the train in a highly successful manner. The engine is practically the same now that she was when she made her record-breaking run, except that she has a little smaller driver and a new boiler.

Charley Hogan, her favorite engineer, has been promoted to division superintendent of the Buffalo Division of the New York Central, with headquarters at Depew, New York. He frequently gets letters from all parts of the world asking him about 999, and how he felt when she took him over that mile in thirty-two seconds; but Hogan is a modest man, and hardly ever talks about the incident.

PRIZES FOR APPRENTICES.

Grand Trunk Shows How It Appreciates the Motive Power of a Special Reward for Superior Work.

THE winning of a prize, however small, has a fascination and stimulus entirely out of proportion to the value of the reward. There is a sort of "glory of conquest" in beating everybody else to a fixed goal that appeals to human nature, especially to the young. The Grand Trunk Railway takes advantage of this instinct among its apprentices. Every year, in every shop, it offers prizes for excellence, says *The Railway and Engineering Review:*

"The annual competitive examinations is always conducted by the company's chief draftsman from Montreal, and has just been completed at all the large shops along the system. Prizes are awarded to the apprentices obtaining the highest average in their respective years.

"These prizes amount to $40 for each shop, and are distributed over the different years of apprenticeship, thus: The apprentice obtaining the highest average for his first year in mechanical drawing gets $4; the highest in practical mechanics $4 also. So it is possible for one apprentice to obtain both prizes.

"A keen interest is taken in this examination, which takes the form of a contest between the various shops. In addition to the prizes as stated above, there is a capital prize offered of $25 for each subject. This is competed for by the apprentices obtaining the highest averages in drawing and practical mechanics at their respective stations.

"These apprentices are given a trip to some point on the system where the final examinations are held, and the one receiving the highest number of points in each subject receives the amount stated.

"This, added to what he has received at his station, will make a total of $29, $33, or $58, if he has been successful in all subjects.

"After the season has closed, the boys at some of the large shops hold what is termed 'apprentice night.' This is the social event of the season. Each one makes a drawing, which is neatly gotten up and inked in.

"This is placed on exhibition, and the prizes are awarded for each year of apprenticeship. These prizes amount to $2.50 for the first prize, and $1.50 for the second prize.

"There are also prizes offered for special colored drawings amounting to $3 for first prize, and $1.50 for second prize. This may be competed for by any apprentice, irrespective of his year, and considerable interest is manifested by those of artistic ability."

ALWAYS A RAILROAD MAN.

BY E. A. SPEARS.

An Old Eagle-Eye Talks About Business Systems in Railroading and Why It Is Hard to Quit When Once You Have Eaten Cinders.

"THEY'VE got railroad bookkeeping down to a fine point," said an old eagle-eye. "For example, they can turn to their records and learn just what an engine has cost to run, and how much the engine has earned.

"If my engine needs a flag, I am ordered to get it, and it is charged up against the engine, and the company knows that I got it. They know how long it takes for an engine to earn back what it costs. They can figure out how much a depot is worth, and when they build a new depot they know how long it will be before they get back what they have spent.

"In old days, if a car jumped the track, the crew would lay it to the bad road-bed, and this department would lay it to the crew. To-day it is different. There is more team work and a greater desire to help one another.

"Now, according to the rules, a brakeman is not supposed to shovel coal for a fireman and a fireman is not supposed to disconnect an engine for a brakeman, when water is being taken, but in an emergency, the brakeman is doing the proper thing if he helps the fireman to shovel down coal in the tender. One trainman I know was fired because he delayed a train twenty-five minutes by just such a refusal. He wasn't cooperating.

"Speaking about cooperating, did you ever read a statement on the subject, posted in the various roundhouses and depots on the New York Central? President Brown is full of the idea. It isn't just talk, but he means what he says. He is one of the friendliest of men you ever knew.

"We railroad men would be sitting around and Brown would come walking in. Everybody would be quiet as a mouse. Brown would say:

"'You needn't be afraid of me, boys,' and then he would commence to talk in a friendly manner. Before long he would get deep into the subject of railroading, and he would tell what the road is trying to do.

"When he gets interested, he almost cries. Every one likes Brown. He worked up from the bottom and has a deep regard for every man on the road. Any man with a grievance can carry it straight to Brown and he will listen.

"The men would do anything for Brown. It makes all the difference in the world how the boss stands with you. While I was working on another road, there was one boss we all liked. When he asked us to do anything, we did it speedily and cheerfully. But the other fellow would try to boss us about as though we were slaves.

"When he was out of sight, we'd loaf. When I got ready to quit, I quit gladly.

"Speaking about quitting, a whole lot of railroad men are just ready to quit. They keep saying, 'Well, I'm going to quit.' But they never do. There's something fascinating about railroading. You come home dead tired and swear that you'll never go back again, but there you are, just as sure as fate. An engineer I know says that every trip will be his last, but it isn't.

"I said once to a fireman who was talking about quitting:

"'Why, man, you're earning four or five dollars a day. What would you do if you quit—you are too old to learn anything else?'

"He said: 'Well, I guess I can do carpentry, just as I did before I came on the road.'

"He thinks he could, but he couldn't. He has forgotten a lot of carpentry, and, besides, he would be twenty years behind the times.

"I know a conductor who got fired. He was earning good money, but now he is cleaning streets. Another man works in a brewery. Another works about a hotel, and I know quite a number that have jobs which pay about a third what they got on the road. They left too old to learn something that paid as well as railroading.

"If they have saved, they may start a small business, but they will not be up-to-date in that business. Railroading is hard work. It pays well, and there is something about it that makes it hard to cut loose from it. Once a railroad man, always a railroad man."

BREAKING THE COMBINE.

BY WILLIAM S WRIGHT.

When Men Are Bound Together for No Good Purpose, It Is Well To Interfere.

CHAPTER V.

Greek Meets Greek.

ABOUT ten minutes later the fire-gong clanged. To Leigh's astonishment, no man rose to ascertain the location of the fire by consulting the signal-book. "Four—nine—three," he said, as the gong beat out the signal-numbers for the third time. "If I recollect aright, that's at Atwood and River Streets—tenement-house district, with the Folsbee paint-factory in the middle of it." And he reached for his hat.

"Where are you going?" cried Halstead.

"To see what the fire amounts to," said Leigh curtly.

"Aw, sit down," laughed the other, "and get used to the ways of this crowd. We don't go out on first-alarm fires—only third alarms."

"But," asked Leigh, "suppose things break loose on your first alarm—as they're likely to—what then? Some of these dinky little fires give up the most news."

"We hear of them through police headquarters, or somebody calls us up from the precinct station-house, or, if an ambulance has been wanted, the hospital doctors usually give us the tip over the telephone," explained Ely.

"Easy times you must have," remarked Leigh tentatively.

"Sure thing," said Ely. "Else, what's the use of a 'combine'?"

Leigh looked doubtfully at the speaker. "You must miss a whole lot of good stuff, waiting for news instead of hustling for it," he said.

"We get all the news that we want," snapped Ely, "and — I don't think we want any advice on the subject. As a committee of ways and means, this crowd, up to date, is satisfied with itself and its methods of doing things. Give me three cards, Cronson."

"Keep your hat on, Ely," remarked Allen. "You forget that Billy's a stranger to us, and that in consequence he's got a right to ask questions. As a matter of fact, we *do* let a bunch of news give us the go-by every day, just because we're too lazy or dopey to grab it."

"Keno!" howled Griggs, suddenly awakening and as suddenly going to sleep again.

"Griggs and Allen seem to think that they're on 'space,' like Leigh is," said Ely maliciously.

Allen flushed. "If I were, maybe I'd make you make a bluff at earning your living," he retorted. "It isn't by reason of your society being so everlastingly fascinating, Ely, that I'm found in it for some hours daily. It's only because—"

"Oh, stop growling, you two," interposed Halstead, "or have it out when the game's finished. Your ante, Bronson."

The men subsided as bidden, and Leigh again moved toward the door.

"Hold on a minute, Billy; I'll go with you," said Allen suddenly. "And"—he glanced at Griggs—"I think a walk would do him good, too, eh?"

Leigh assented. Griggs was protestingly hoisted to his feet, his face swabbed with a towel dipped in ice-water, and, after a brief struggle—during which Allen administered what he described as the "facial percussion treatment" with the flat of his huge hands—Griggs departed peacefully with the others.

Began in the March Railroad Man's Magazine. Single copies, 10 cents.

The fire did not amount to anything apart from the panic which is the accustomed accompaniment of a tenement-house blaze; so the trio—Griggs having become his own man again—turned to go.

"Where now?" asked Allen.

Leigh pulled out his note-book and read off a list of happenings that were to take place in the district during the evening—it was then only half past seven o'clock.

Allen looked puzzled. "You're surely not going to look after all of these?" he asked.

"Won't the rest of the fellows handle some of them?" asked Leigh.

The other shook his head. "No; I'm pretty sure they won't."

"And why not?"

"Well," said Allen hesitatingly, "we—that is, they—don't trouble with much outside of the 'must' matter of the district."

Leigh made a gesture of impatience. "Well, Jimmie, just for once, break the rules and come along with me."

The other shook his head, but hesitated nevertheless. "I'm one of the combine, you must remember," he said laughingly.

"And I'm sorry you are, considering what the combine is," replied Leigh gravely.

Allen grunted, and Griggs snickered.

Leigh didn't pursue the subject further, and the two walked a block in silence. Leigh halted as a cross-town car-track was reached.

"I'm going over to Columbia Hall to the Highburg Board of Trade meeting," he announced. "Understand they're going to get busy with Burke and his crowd to-night over the Mainway improvement and other local contracts. We have a hint that there will be a red-hot time of it, and that the preliminaries, looking to a legislative investigation of Burke and his crowd, are to be put in play."

Allen looked at him queerly. "You know, I suppose, Billy, that—that—Burke is a pretty decent fellow."

"Never heard it till now. Thought he was about as bad as they make 'em, politically and in other ways. But, supposing that he deserves your good-conduct badge, what's that to do with the board meeting?"

The other looked uncomfortable.

"Well, I'll put it another way, then," replied Allen. "He stands well with the combination."

"And?"

"The combination doesn't like to see its friends get the rowel."

"Have you been asked to tell me this?" said Leigh, looking Allen squarely in the face.

"I have not, Billy," was the instant answer. "But you and I have always hit it well together, and—and—well, I don't want to see a good fellow like you run up against a barbed-wire fence, as some of your predecessors have done—to their disadvantage."

Leigh smiled. "I appreciate the warning, Jimmie, but when the combine pays me my salary I'll do by it and its friends as it wishes, and not before. It may think it owns Highburg, but it's beautifully mistaken if it thinks it owns me."

"The others talked like that," said Allen, with a note of pleading in his voice.

"Good for them. I'm sorry that they didn't last out," was the reply.

A car hove in sight. "Will you come along?" asked Leigh.

"No," said the other; but he looked wistfully at his friend.

"Then, good-by for the present," cried Leigh as he caught the car on the fly. "I'll see you later at the Municipal."

At about eleven o'clock Leigh, true to his promise, appeared at the reporters' quarters. Five of the combine were present, including Allen. The poker-game was still on.

"Anything doing?" he asked cheerfully.

Jennison, the dean of the combine, and representative of the Martport *Gazette*, exchanged glances with the others.

"Have you got anything?" he said.

"Yes," replied Leigh, producing a note-book and copy. "Good stuff at that. Want to take any of it?"

"I'd like to hear what you have first," growled Jennison. "Maybe we'll use it, and maybe we won't." His tone was a challenge.

Leigh felt that a crisis was approaching. Then he proceeded to read, noting, however, that none of the others were taking notes of his items. When he had concluded, Jennison spoke again.

"That kidnaping affair in the fifth pre-

cinct will probably turn out to be just an ordinary case of lost kid. I don't take any stock in it, and won't write it. Understand? If the Strauss sugar-house accident had been as out of the ordinary as you say it was, it's queer that we didn't hear of it from Dr. Bayliss, of St. Mary's Hospital. As we don't usually go over the doc's head, we won't use that, either. About the Board of Trade meeting we'll send in a few words."

Leigh looked at him. "Did I make myself quite clear?" he asked. "Senator Clives and Assemblyman Potter deliberately charged Burke and his associates with out-and-out theft, and pledged themselves to set the wheels of legal and legislative machinery in motion to punish them. Their speeches were the culmination of a whole lot of sizzling oratory."

"Oh," snorted Jennison, "those stiffs are all hot air. Burke is It in this district, and cares no more for the gassing of that crowd than he does for a ten-spot when one of the boys needs it. Burke's all right."

Leigh felt himself growing hot at the clumsy hint of the speaker, but managed to keep control of his temper. Just then he glanced at Allen, and the expression on the latter's face puzzled him. It seemed as if the big fellow was encouraging him to continue the controversy, which, indeed, Leigh was only too willing to do, being in no humor for compromise, and feeling, too, that he had reached the parting of the ways.

"Leigh—" began Ely.

"You'll kindly hold your tongue," interrupted Allen, a gleam of battle-light coming in his eyes. "Leigh's got the floor."

Ely scowled, and Leigh resumed.

"Burke may be all right as you know him, but that's no reason why I should kill a piece of news in which he figures."

"Leigh's on space, you know," said Ely, with a grin, addressing Jennison.

"And if Leigh wasn't on space," retorted that individual, "he would do precisely as he's now doing. It would almost seem, Ely, as if you were not in the district to get news, but to keep mum about Burke in return for Burke's rum."

"Rime and reason," chuckled Griggs.

Ely again opened his mouth to reply, and once more Allen cut him short.

"Shut up!" he said angrily. "This is between Leigh and Jennison. When they get through, you can butt in. Meantime put the nippers on that wagging jaw of yours."

Jennison rose and lit his pipe. "We may as well understand each other first as last," he said, turning to Leigh. "If you care to come into the combine, you're welcome, provided you do as the combine does. But I've a shrewd notion that you're in the district for the express purpose of going it alone. Maybe I'm wrong, but I think I'm right. You're a clever boy, Leigh, but if you imagine that you can down this little coterie as easily as you've done some other star jobs on the *Record*, you're mistaken."

"I think," replied Leigh slowly, "that it's come to a show-down. I'm here to get the news of Highburg—and I intend to get it. If I tread on the corns of you fellows or those of your friends, I shall be sorry—but I'm out for the news, all the same."

"Don't be a fool," broke in Halstead. "Even as it is, there's sufficient space in this job—plus your salary — to satisfy your lust for dollars, Billy."

"The job might satisfy his pocket, but not his conscience, you know," said Jennison, with a lumbering attempt at sarcasm.

"I don't consider you an authority on matters of conscience," retorted Leigh. "Anyhow, I'll have none of the combine, as it's now run, in mine; so good night."

"Go, and be hanged!" snarled Jennison. "A couple of weeks hence you'll be begging us to let you come back into the fold."

"I don't think so," said Allen suddenly. "Leigh's no cur. And all of the combine is not of your way of thinking, either."

CHAPTER VI.

The First Gun Fired.

JENNISON and the rest looked at him with mute amazement. Allen was bundling together copy, paper, notebooks, tobacco-box, pipes, and other of his belongings.

"Leigh's estimate of this gang and its ways is about right," he said wrathfully,

stopping suddenly in his work and turning to the others. "We're a measly lot of muckers, who sell our souls for gratis booze and a microscopic share of the big graft that the Burke species couldn't get within a mile of if we didn't keep our pencils quiet.

"A sweet, wholesome, lovable congregation we are," he went on, his voice booming with self-contempt and anger, "gorgeous specimens of 'gentlemen of the press.' Oh, and a gritty lot, too—such a gritty lot! Afraid to even claim what's coming to us as accomplices of the gang that runs this district that engineers the rotten deals which have made Highburg notorious."

"Are you crazy, Allen?" cried Jennison.

"No, nor drunk!" said the other fiercely. "But Leigh's stand on the matter has brought to a head my determination—that isn't by any means new—to cut the combine—"

"Rot!" cried Halstead.

"Truth!" replied Allen. "I'll not stand in any longer with— Here, Leigh, let's get out of this, or I'll be saying things that I'll be sorry for."

"You'll be sorry for what you have said," declared Jennison threateningly.

Leigh took the other by the arm before he could reply, faced him toward the door, and without further words the pair left the Municipal. Allen was hot with excitement.

"I want a drink, Billy," he declared as they drew near the café at the next corner.

"You'll drink—ice-water—at my—at our office," replied Leigh; "nothing else, until we have sent our copy down."

"Your office?"

"Yep. I looked for this rumpus, and so got quarters beforehand. It's a block farther up—first floor—over Higgins's drug-store. Snug place, and I've a telephone installed; also two desks."

"Two?"

"To tell the truth, Jimmie, I half-expected that I'd succeed in persuading you to break with that crowd. Anyhow, I intended to try. But I didn't look for the rupture to come about quite so suddenly."

"Nor I, although it was inevitable. But I heard a tale to-night, after I left you, about certain easy money that came to Ely recently, that sickened me—and so the explosion. Still, as I said, I've been thinking over this step for a month or two. I'm not quite a bad 'un, Billy, and my little tears have always been of the impulsive sort.

"But this cool business of sitting down and making a permanent job of booze and loafing and borrowing is too much for me. Your coming here was a godsend. There is many a man who really wishes to get out of the gutter but can't manage it, simply because his moral knees are a bit too weak to help him onto the sidewalk of decency.

"That's the time for the friendly hand to get in its fine work. My moral plans and specifications aren't in keeping with my chest development, I'm afraid — in which respect you have the advantage of me." And he clapped Leigh affectionately on the shoulder.

"You're all to the good, Jimmie," said Leigh heartily; adding, with a chuckle: "It's been an iridescent evening. The inventory to date includes a fight with the combine, a news sensation for to-morrow, the rescue of a good fellow from perdition, and trouble ahead."

"And a bad beginning for the combine. I'll bet those fellows are worried," said Allen.

"Not as much as they will be, though. By the Big Blue Pencil, but we'll make 'em work!"

"You couldn't hurt their feelings worse than by causing them to do that," remarked the other with another cavernous smile.

And then they reached their destination, and wrote and telephoned news to their respective papers until nearly two A.M.

Leigh, that same morning, published in the *Sentinel* the proposed Burke investigation; and, as he had written it, it was, as Staynes remarked, "Hot stuff." The kidnaping case, too, made interesting reading. There were also half a dozen other good items. The night's work had been entirely satisfactory.

Allen had done nearly as well; so much so, indeed, that the city editor of the *Clarion* telephoned him, asking the wherefore of his unwonted industry. The newspapers of the combine had, as Jennison

had promised, but a few lines of the Burke sensation. In consequence, there was a lurid and general calling down of the combine members by their several editors, the replies to which were that the *Sentinel* story was more of a fake.

Jennison and the rest of the combine began to feverishly plan for Leigh's and Allen's undoing.

Before he went over to Highburg that evening, Leigh dropped in at the *Sentinel* office. Staynes greeted him heartily. "Ridgely's highly delighted over the Burke story," he said. "Billy, you're the only cereal. Are you going to give us more of the same to-night?"

"I guess so—including a talk with Burke. If he'll talk. And, Sam, I now expect trouble. The combine will, among other things, see to it that I don't get much out of the station-house blotters. So, get your police headquarters man to keep his eye on any slips that come from the Highburg precincts, and ring me up if he notes anything important."

"It shall be done," said Staynes; "and don't hesitate to let me know if at any time you want any help."

"I won't, but I've a good man to work with as it is." And he told the tale of Allen's withdrawal from the combine.

The city editor laughed. "'Tis the little rift within the lute of the combine, Billy," he said gleefully.

"Yes," replied Leigh; "but 'tis only the commencement, remember, and there'll be music in the air before the end comes."

Not far from the druggist's over which he had made his headquarters, Leigh actually ran into Burke when he was leaving a cigar-store. Now, the politician knew the foolishness of unnecessarily antagonizing a newspaper man in the latter's personal capacity. So he caught Leigh by the arm as if he were trying to save him from a fall, laughing heartily as he did so.

"Hallo, Leigh!" he cried. "That you? Trying to break my neck, are you? I think that's rubbing it in, after the 'roast' I got in the papers to-day." And again he laughed—a well-fed, well-oiled, well-trained laugh.

Leigh said something in the way of apology, and added:

"I was going to look you up later to ask if you had anything to say regarding my article. This meeting will save me that trouble, if you can give me ten minutes."

"Ten minutes, my boy!" cried the other. "Why, cert'. Half an hour, if you want it. Come down to my place and we'll open a small bottle."

"No," said Leigh, "let's go to my office. We'll be free from interruption there."

"Your office?" asked Burke with a capital affectation of surprise. "Why, aren't you down with the rest of the boys at the Municipal? You know you're welcome there, however much you pound me."

Leigh glanced at him, understanding perfectly that he knew.

"Oh, that's all right," he said. "Thanks, just the same. But I like a quiet life, and—here we are."

He led the way up-stairs. The politician noted the telephone and other suggestions of permanent occupation.

"You look as if you thought you were here to stay," he said, and the reporter detected a tinge of malice in the remark.

"Yes," replied Leigh easily, "that's what I'm here for. And now, as I don't want to detain you, let me ask—"

So he put a lot of questions relative to the charges made against Burke at the Board of Trade meeting. Some were answered direct, others evaded, and yet others failed of reply altogether because, so the politician alleged, he knew nothing of their subject-matter.

The interview ended, and Burke rose. "I suppose the *Sentinel's* going for me again to-morrow?" he asked with a careless smile.

Leigh smiled back, but replied not.

"Why have you got it in for me, Billy?" went on the "boss" good-naturedly. "Was I ever up against you in any way?"

"No," said Leigh rather sharply; "and if you had been, it wouldn't have made the slightest difference one way or the other. It's a plain proposition, Burke—that, and nothing more. I'm in this district for the news, and the news I propose to get.

"Just now you happen to be the news. You're the best judge as to whether you are or are not to blame for that fact. But there's no personal equation in this, so far as I am concerned. If the Board of

Trade had voted you a halo, instead of handing you the remarks that it did, I should have written the proceedings just the same—as news."

"And news it would have been, indeed," replied the other with a grim chuckle. "Well, I'll be going. But I hope that, outside of business, we'll be friends."

"I never ask too much of human nature," replied Leigh with a laugh that, however, didn't veil the meaning of his words.

"Nor I." He stopped on his way to the door and faced the reporter. "I like an honest fighter like you, Leigh; and, as I said before, I hope we'll be friends, come what may. But," and he spoke very slowly and deliberately, "I think you're making a fool of yourself. That little row at Columbia Hall don't amount to a pinch of snuff. You're not familiar with things in Highburg, or you wouldn't attach any importance to it. Why, those long-eared mules—"

"Is this for publication?" asked Leigh, in accordance with reportorial etiquette.

"I don't give a flip whether you write it or not," replied Burke. "The point I'm getting at is this: we—myself and friends — happen to be running affairs hereabouts just now. The other fellows are squealing because they're not in on the game. By the looks of things, they're likely to remain out of it for a long time. In fact, I don't see how they're going to sit in anyhow. Consequently, while they may make a whole lot of noise, no harm's coming to any one on this side of the house. See! You ain't a baby, Leigh; you know what practical politics are."

"And this, too, is for publication, I suppose?" said the reporter.

"No, it isn't," replied Burke bluffly; "it's for you, and you only. It's this way. What's the use of you making yourself unpopular among people who have the power and who are willing to be friends of yours?"

"Friends?" said Leigh quietly. "In what way?"

"Any way you like," replied the other significantly.

"I wish you hadn't said this to me."

"Why?" asked Burke, staring in a puzzled fashion.

"Of course, I understand what you mean; and so there is only one way of replying."

"That being?"

"Well," said Leigh with a smile, "you'll find out soon enough. But you're not the only practical politician who has made the same blunder."

"I'll be shot if I know what you're getting at, Billy," replied the boss.

"The fact is, Mr. Burke," said Leigh very deliberately, "that you're so used to mixing up with people who can be bought at a price that you imagine every man *has* his price—when you want to buy him. And therein lies your mistake."

"It's a fair proposition, anyway," returned Burke. "I never ask a man to do anything for me that I ain't willing to pay for."

"If you think it's worth paying for at your figure, you mean. I don't think that we need talk further about the point involved," replied Leigh. "You'll have to excuse me, for I've a lot to do."

Burke didn't go on the instant, however. Instead, he came back into the room a little way.

"You're going to declare war, then?" he cried, with another hearty laugh.

"No," said Leigh; "but I'm going to tell the truth about Highburg—and some of its people."

"Umph!" snorted the politician. "Telling the truth, as you call it, ain't always the way to keep the peace."

CHAPTER VII.

In Working Order.

LEIGH didn't answer, and Burke again made for the door. "Well, Billy, good night to you, and remember that all's fair in love and war," he said.

The reporter turned to him with a confident laugh. "You intend that as a hint as to what I am to expect, but you haven't a monopoly on everything and everybody hereabouts — especially the ear of the public."

Leigh worked on his interview with Boss Burke for an hour or so, and then went to hunt up some of the Board of Trade members. On his return to the office at nine o'clock he found, somewhat

to his surprise, that Allen had not turned up.

Consoling himself with the thought that Allen was probably going the rounds of the district and would presently put in an appearance, he turned to the Burke matter once more. Just as he finished writing, the telephone-bell rang. Allen was on the wire.

"That you, Billy?"

"Yes."

"I'm sorry to have to tell you, old man, that I've come to the conclusion that you and I can't work together after all," said Allen.

"Is this a joke, Jimmie?"

"No; it's deadly earnest. It isn't that I'm scared of the combine, but I can't afford to antagonize a lot of people in Highburg by standing in with you—Burke among them."

"Up to now," answered Leigh, "I'd have smashed the man who said in my hearing that Jimmie Allen was a coward. But I'd let him go on talking now."

"Think what you like of me," came back, "but my mind's made up."

"Are you going it alone, then?"

"I can't quite tell what I'm going to do. Maybe I shall ask our people to take me out of the district altogether. Maybe I'll resign. And, Billy, be warned by me—cut out the *Sentinel* and don't try to fight the combine and the people that it's friendly with."

Leigh cut the conversation short by hanging up the receiver.

"Allen, of all men," he muttered. "I'll be hanged if I can believe it. But I'll see him to-morrow and find out the true inwardness of his surrender. There's something in this that he hasn't hinted at. Trying to scare me off by throwing it into Jimmie, are they? Well, we shall see."

Leigh, who had an unduly obstinate chin, unconsciously protruded that feature at the Burke interview. Then he telephoned to Staynes to send a man to help him over the evening, Allen's desertion having upset his plan of campaign. Staynes sent him Bryant, who had a reputation as a hustler. Together the two reporters got a tidy budget of news, although at a couple of station-houses the blotters were grudgingly opened by the gruff desk sergeants. At some of the gathering places of Burke's associates—centers of political news—Leigh's reception was, to put it mildly, cheerless. The leaven of the combine was evidently at work.

When he reached the office again Bryant handed him a note that had come by a messenger. It was from Allen, and as Leigh read it he chuckled and slapped his knee.

"Bryant," said he, "please take carbon copies of what you have, and let me have them. And you can quit when you've got through with your copy. We won't try to cover the district again to-night."

At eleven-thirty came another messenger from Allen, bearing a bulky envelope, and receiving in exchange one from Leigh. When at midnight one of the *Sentinel* boys came for copy he took back with him a note for Staynes marked "Strictly personal."

Now, the Highburg morning newspaper men were on duty until three A.M., at which hour they gave the "good-night" signal over the telephone to their respective offices.

Three-quarters of an hour before, Leigh laid down his cigar. "I don't quite like to do it," he said to himself, "but one has to fight the devil with fire, I suppose."

He rang up the *Sentinel*. He must talk to Mr. Staynes personally and in a hurry. Staynes came quickly, and in a voice that trembled with apparent excitement, Leigh gave him a brief but sufficient bit of exclusive news of a sensational sort.

It was to the effect that the two-year old child of Henry F. Dobson, one of the most prominent and wealthy men of Highburg, had been kidnaped from out of the Dobson mansion on the upper part of Arlington Avenue on the outskirts of the borough.

The child slept in a large nursery, on one corner of which was a bed occupied by the nurse. Some time after midnight the nurse was awakened by a draft of air blowing on her face. She found that the window of the nursery was open, and that the child's bed was empty.

A ladder leaning against the side of the house showed how the kidnapers had gained access to the room. The extensive grounds that surrounded the house furnished ample cover for the movements of

the daring person who had stolen the child.

One of the mysteries of the case was that three or four dogs that were let loose in the grounds at night, had given no warning of the presence of the kidnapers. When Mrs. Dobson was notified of her loss she became insensible, and a physician, who was called, declared her to be in a critical condition.

The subsequent confusion was responsible for the police not being promptly notified. Coming on top of the other kidnaping affair of two days before, it seemed as if a daring and organized gang of child stealers was operating in Highburg.

"Exclusive?" asked Staynes over the wire as Leigh finished.

"That's what I said," was the reply, "and I think I'll give you 'good-night.'"

Leigh hung up the receiver and stood looking at the telephone doubtfully.

"I don't know," he said to himself as he shook his head, "but I suppose it was called for. Yet—"

He turned out the lights and left.

CHAPTER VIII.

Blocking the Game.

THAT same morning every one of the newspapers represented by the members of the combine published the alleged kidnaping. In one or two cases the night city editors had added such additional sensational touches as their overheated midnight imaginations had prompted.

Neither the *Sentinel* nor Allen's paper had a solitary line about the affair. All of the Martport evening sheets, in commenting on the story as a rank fake, explained that no such person as Henry F. Dobson lived in Highburg, and that the scene of the alleged kidnaping was in reality a soap-factory.

Allen dropped in at the Seventeenth District Court at about noon.

"You see, Billy," he said to Leigh, "as I couldn't explain at length in my note, one part of the plan of the combine to shut out an anticombine man was to have the telephone 'centrals' tip us off when the former was phoning to his office and they connect us with the wire that he was using.

"Consequently, we only had to listen and take notes of what he was saying in order to make it nearly impossible for him to 'scoop' us. We were always pretty well posted by headquarters and our friends on the early news of the district, and the only chance that the other chap had of twisting our tails was to watch out for the happenings that we were likely to miss late at night, being busy with flushes and full hands.

"Of course, the gang knew that I would tell you all this; but that alone wouldn't have done much good to either of us. Central would have gone on connecting your wire with theirs, you would not have been able to prove it, and your phone would, in consequence, have been practically useless."

"So, your object, then, was for the *Sentinel* to get positive evidence that a leak was taking place with the connivance of a telephone operator?"

"Precisely. And that, too, was why I kept away from your office last night and made suggestions by note as to how you should work the thing. I wanted you and Staynes to be able to swear that only you two had engineered the test of Central's probity."

"And that, too, is why you so cruelly severed your connection with me over the phone," said Leigh, with a grin. He frowned a trifle. "It was justifiable, I suppose," he said haltingly; "but, to tell the truth, Allen, I didn't like to do it. I'm naturally not a very fluent liar, and it was certainly a bit of tall lying, you must confess."

"Tut, tut!" cried the big reporter. "It was merely a diplomatic assertion spiced with necessary reservation. The end always shakes hands with the means when the scrap between fact and fiction is over."

"But why did you want me to send a copy of my news to your house instead of coming to the office for it?"

"I haven't the slightest doubt that your incoming and outgoing was the object of much interest last evening," replied Allen. "If, then, I had visited you after telephoning my irrevocable determination not to have anything more to do with you, the sincerity of my declaration might have been doubted by some of my late associates."

Leigh's eyes twinkled. "How are you going to square yourself when they find out how they've been done by you?"

"I shall explain that you have exercised undue influence over me," was the reply. "And if that doesn't satisfy them, I'll call their attention to the fact that it's none of their business."

To be beaten by the *Sentinel* and *Clarion* over the Burke scandal was bad enough, but the Dobson kidnaping fake emphasized the need of drastic remedial action.

The interview with Burke obtained by Leigh was, as written by the latter, "tabascoesque," as Allen put it. Worst of all, there had begun to arise a public murmur that the *Sentinel* and the *Record* were the only papers that had sufficient pluck to tackle the rotten politics of Highburg.

The emphatic word went forth that, combine or no combine, such happenings as had characterized the past two days of Highburg's news couldn't and wouldn't be tolerated—that the next exclusive piece of news would be equivalent to the dismissal of everybody concerned therewith.

The combine took the rebuke scornfully and sullenly. Burke was informed. That afternoon the Highburg boss had a talk with one of the biggest men of the party. And the big man, who was very corpulent and had elephantine ears that readily lent themselves to the purposes of the cartoonist, called at the offices of the morning newspapers, who, politically, were affiliated with him and his. He wanted to know if it were true that they "was going to give the foot to some of them Highburg boys jus' because the boys hadn't thrown it good an' heavy into Burke."

And he wanted to know if there was "anything doin'—any hedging or fence-straddling behind it all. See?" And "never mind who he got it from—it come to him as straight as he wanted it. An' of course they could do as they bloody-well pleased; but if they was goin' to fall in behind the *Sentinel* muck-cart, he wanted to have it aforehand. An' while he didn't give a so forth and so on what they was goin' to do, the party wasn't goin' to be played for a fool!"

When the combine-breakers met again that evening they had the air of those who know that real work lies before them.

"The overture being over, the play is about to begin," said Allen.

Leigh nodded. "Yes, we've got busy times ahead. Those fellows will stick us mostly on station-house stories. In other directions I think we can hold our own, or nearly so. But when it comes to the station-houses, I confess that I'm a bit puzzled as to how to act."

"You're right, Billy," admitted Allen. "The same thing has occurred to me. I, too, don't quite see how we can get next in this direction."

Leigh mused. "The only thing that we can do for the present is to wait developments. If we find that we're being studiously thrown down by our friends in uniform, why, but one way remains."

"The same being?"

"Usually, Jimmie, one catches more flies with sugar than vinegar. In the first instance we'll try the saccharine treatment; if that fails we'll have to turn on the sour."

"Excellent! But how?"

"Did you ever yet know of a copper who hadn't a moth-hole or two in his record, through which you could prod him with a pencil and make him squeal?"

The light of understanding spread over Allen's countenance.

"True," he said. "If I hadn't been in the combine, I wouldn't have been put next to the ways of the gents in question."

"And I, too, have some similar notes in the neighborhood of my cuffs," replied Leigh. "Altogether I think that we're pretty well heeled for whatever sort of game we may run up against."

The earlier part of the evening passed without incident, except that at the quarters of the Franchise Club Leigh was refused admission, on the plea that an executive meeting of the members was in progress.

Burke was president of the organization, which, politically, was the most prominent of its kind in Highburg, and Leigh felt that something was brewing that was being kept from him purposely.

He determined to find out just what it was. Therefore, after telephoning to Allen, he began to patrol the sidewalk opposite the clubhouse, keeping in the shadows of the trees and an arc-light. The

meeting being over, he saw Halstead and Jennison leave with others, which confirmed his suspicions. He observed one Brone—a small, rotund German, the proprietor of a saloon.

Once upon a time a man with a pull, who also owned a saloon, tried to have Brone enjoined from maintaining a nuisance; for the man with a pull desired to monopolize local patronage. Later, his rival failed to close Brone's place, and, rightly or wrongly, the little German attributed the defeat of his foe to Leigh, and Leigh alone; for Leigh had made a funny story of the affair. So he took occasion to try and prove his gratitude in many and divers ways.

The reporter, remembering all this, followed his man until the latter turned into a side-street. "Hallo, Brone!" he cried. "How goes it?"

"Meester Leigh," responded Brone, his plump, shining little face crimsoning with pleasure, "*Ach Himmel,* how I am pleased you to see! Come my place in, we trink glass of beer? Oh, yes!" laying a restraining hand on the other's coat-sleeve. "You come must."

Leigh nodded; the saloon was reached; nobody else was there except the tailor who lived next door, and who was asleep on a chair in a corner. Mrs. Brone, the counterpart of her husband in face and figure, greeted Leigh heartily.

"Vos you the meeting at to-night?" asked Brone, after some general chat. Leigh had been leading up to the question.

"No," replied the reporter, "I couldn't get up," which was true; adding, with a yawn: "Anything interesting?"

"Eenteresting!" cried Brone. "I pet you! Some of the newspaper poys vos dere. I see 'em. Dey'll put lots der papers in."

"Perhaps so," replied Leigh; "but what was it all about?" He half rose as if to go.

"Seet down," insisted his host. "Thees is fine peece news. You vait. Lena, more beer; fine news, yes!"

With very little prompting, Brone then told how the meeting was really of a semi-executive sort—at all events, the door-keepers had instructions to bar all persons but members and "those invited."

Leigh smiled to himself at this, knowing the wherefore of the order. That a Home Rule Association had been organized to the end of checking "attempts at meddlesome interference on the part of the Legislature in regard to matters that had to do with local interests, which interests were best administered by persons conversant with them"; that several of the Martport party leaders were present and made speeches denunciatory of the attack on Burke; and that, finally, a resolution had been passed to the effect that a bill be introduced at an early date, by one of the Highburg assemblymen, calling for an investigation of the motives and certain of the official methods of the inaugurators of the Board of Trade movement.

Leigh took but few notes. He had the tenacious memory of the trained reporter, and he excused himself as soon as possible after wringing Brone dry. Then he hastened to the office, where he found Allen awaiting him.

Allen looked a trifle worried. "I feel it in my bones," he said, "that there's something doing to-night that we've been shut out of."

"Why?" asked Leigh.

The other shrugged his shoulders helplessly. "I don't know why. I feel it in my bones."

"Your bones didn't fib, Jimmie," replied Leigh, and he told him of the meeting of the Franchise Club.

"That explains," said Allen. "I ran up against Jennison about half an hour ago, and his little green eyes looked mischief as I passed. 'Good night,' said I. 'Good night,' said he, 'and pleasant dreams to you,' and then he grinned. Evidently he was reveling in the thought of how joyous we'd feel when we read the combine's 'scoop' to-morrow."

"Get anything out of the district?" asked Leigh.

Allen handed over the scant notes that represented his evening's labor, and both men then fell to work. Leigh finished first.

"Eleven o'clock," he said, glancing at his watch. "Senator Clives is stopping at the Bay View House; he goes to bed early, as I know, and so I feel pretty sure that I'll run him to earth there. I'll also see Moriarty, the Board of Trade president. And Jimmie, if you don't mind

breaking up the beauty sleep of Halpin, the legal adviser to the Board of Trade, and one or two others who are interested in the matter, we'll put a sting in the tail of this story that'll make the combine look pale."

Both reporters were lucky in meeting the men they sought.

At about one o'clock in the morning they went to a near-by restaurant. On the way thither they met Burke. "Anything to tell us?" Leigh asked blandly of the politician.

"Nothing to tell *you*," was the reply.

"My bones aren't quite easy yet," said Allen as they were on the way back to the office.

"I think we'd better make a tour of the rounds once more," said Leigh.

Allen consulted his watch. "It's rather late for that. Anyhow, let's ask 'Central' if anybody has rung us up."

Somebody had, but "Central" didn't know who. The men looked at each other vexedly.

"I'll try the *Sentinel* office and police headquarters," said Leigh. The calls proved fruitless, however. "Now let me see if it was the *Clarion* people," remarked Allen, holding out his hand for the receiver.

Just then came the sound of heavy footsteps on the stairs outside.

"A late visitor," muttered Leigh.

Allen threw open the office door. There stood Ahearne.

"Hallo, Pat!" cried Leigh. "Glad to see you! Come in; you know Mr. Allen?"

"Oi do, sor," replied the officer; "an' yez hev a snug place uv it here."

"Yes," said Leigh, "and welcome for a friend—like yourself."

"How are things, Pat?" asked Leigh.

"Purty an' well. But av either uv yez been up to the fifth precinct to-night?"

Allen glanced at Leigh as much as to say, "I told you so."

"Mr. Allen has," replied Leigh.

"Did he get the story about 'Father Poldinski,' thin?"

"No," said Allen. "What was it?"

"Oi thought yez was out uv it, an' so Oi called yez up, but didn't get yez. So, passing here on me way home, sez Oi, Oi'd hate f'r th' boys to be bate on so illigant a chunk uv news, an' up Oi comes."

"So?" said Leigh. "What happened?"

"Well, yez know that th' re-lay-shuns av Father Poldinski, th' good man, an' his gintle payrishners hev bin sthrained for many a month. So t'night a whole lot uv bleatin' Polacks comes to th' fifth, jabberin' that th' 'father' had licked a couple uv hunder uv um tremenjus, an' had kicked a thousan' into th' street."

"An' in the midst uv it all, with Maloney—he was disk sergeant—tryin' to make some av them talk sinse, bang! an' intirs th' 'father' himself.

"He was cross, oh, my! But whin th' flock seen its shephird thus, it didn't sthop to wish Maloney good night, but just scatthered—payin' no attenshun to where an' how an' why it was goin'! The 'father' was blockin' th' dure, but th' windies was handy—both back an' front—an' they was took advantage uv in a way demoralizin' to th' frames an' th' glass uv um.

"Some uv the fleein' ones skipped up th' stairs ladin' to th' quarters uv the resarves, many uv whom was slapin'. 'Tis a traysonable riot, b'yes!' yells Mullins, who was awoke by a large Polack wid black whiskers steppin' on his face. 'The furriners is risen, b'yes!' he blathers; an' wid that there was swinging uv night-sticks an' drawin' uv guns an' a scene of cruel war."

"What time did it take place?"

"About nine o'clock, Oi should judge. Rawlins got excused for a half-hour at eight o'clock, and on his way back to th' station he noticed bunches uv distrissed Polacks on th' way there. Th' throuble began not long afther he had reported ag'in."

"And Maloney was at the 'desk'?" said Leigh.

"Yis."

"So you thought that we might slip up on this story, and looked us up, did you?" went on Leigh, looking at the big Irishman with friendly eyes.

Ahearne smiled in affirmation. "Maloney is a Burke man, ye know."

"I sha'n't forget this, Pat," said Leigh.

"Nor I," added Allen.

"It's a fight to the death, now," said Leigh.

(To be continued.)

The Railroad Man's Brain Teasers.

A Few Hard Nuts of the Early Spring Variety to Loosen Up the Mental Machinery of Our Mathematicians.

L. D. HASELTINE, of Richmond, Indiana, contributes the following: A siding holds three cuts, or sixty cars. An engineer hauling a train of twenty cars comes to this siding, and wishes to take the middle twenty cars and place the twenty cars he is hauling in the place of the twenty cars he takes out, leaving the end sections in the same position he found them.

The engine can only handle twenty cars at a time; no drop, staking, or roping to be done.

Can this be done? If so, show how many moves.

W. A. Hickey, of Chicago, obliges us with the following:

Given two intersecting railroad lines, a west-bound and north-bound train, each four hundred and forty feet long. Each train starts at the same time from a point one hundred miles from the intersection. The north-bound train runs at a speed of forty-eight miles per hour. At what speed must the west-bound train run to reach and clear the crossing at the moment that the locomotive of the north-bound train touches that point?

The answer to these puzzles will appear in our May issue.

Answer to March Puzzle.

(1.) The car does not slide from under Smith while he is in the air. He does alight in the same spot, because Smith, and everything else carried by the train, partakes of its progressive motion. He is traveling thirty miles an hour when he made the jump, and thirty miles an hour when he completes it.

(2.) The only distance which he could alight behind the "take off" would be what the wind, kicked up by thirty miles an hour, would have blown him. If he jumped straight, not more than two or three inches.

(3.) No.

(4.) If he performed his stunt in the aisle of an enclosed passenger-coach, he would return absolutely to the same spot.

ON THE EDITORIAL CARPET.

Side-Talks With the Man Who Sits in the Cab of the Magazine and Is Commonly Called an Editor.

THE monorail is all very well as a valuable asset of the Sunday newspaper, and maybe when they're through tinkering around a bit they'll get something that might be useful. But, for ourselves, we like to feel all the ten wheels of our engine spanning the standard gage track and whirling along without depending on any spinning top to keep us right side up.

That's why we don't try any freak motive power or rolling stock in the make-up of our monthly train. We know what our readers want, and the only difference month by month is caused by the effort to get a higher polish on the coach-trimmings of a higher steam-pressure in the gage.

Of course, improvements are all right, and we don't intend to miss any chances in that direction, but the things that we put on must have passed all the safety-appliance tests ever formulated by a government of critical readers. It is through this method that we are able, month by month, to promise for the following month a magazine keyed to as high or higher pitch as the one being turned out.

In fact, for May we have had to get a new steam-indicator put in the cab, for we couldn't register the pressure without busting the old one. This is particularly true in the matter of fiction.

We don't think we ever had quite such a collection of authors in one issue as we shall have in the May number. J. R. Stafford, Frank Condon, Robert T. Creel, Robert F. Hoffmann, F. H. Richardson, and Augustus Wittfeld make a train-crew that any fast-flying limited could be proud of.

Mr. Stafford's story is about a refreshing Irishman whose cool impudence is as unconscious as his natural capability is great. Mr. Hoffmann's story will probably be called "Bill Daidy's Chapter," and you'll agree that it is one of the most unusual chapters ever written by a railroad man. In its way it is as refreshing as Mr. Stafford's Irishman.

Mr. Wittfeld is as funny as ever, which is saying something hard to believe.

Besides these stories, we have others equally good, but we fear to mention more, because if in the excitement of making up the train one or two cars got switched, we don't like to feel responsible for too many disappointments.

In the special articles we have the very sad announcement to make that the May number will see brought to a close "The Evolution of Almost," by Horace Herr. We consider this sketch to have been a distinct "find."

There is in newspaper parlance a much-abused phrase, namely, "human interest." If the writers of some of these human interest stories would read "The Evolution of Almost," we think they would quit out of shame.

We don't remember reading in a long time of so distinctly human and lovable a character as "Almost." He is the male Mrs. Wiggs, and we all feel better, in a very real sense of the word, for having made his acquaintance. He is an addition to railroad literature.

Other features among the special articles for the May number will be number six of the "Letters of an Old Railroad Man and His Son," a series that has taken particularly well; the always delightful "Observations of a Country Station-Agent"; No. 2 of Mr. Rogers's articles on the shops, entitled "Railroad Machines"; commercial traveler yarns told in the smoker, "Old-Timer Tales," and maybe an instructive article on the story of railroad trade-marks.

We have in mind several other fine, high-class pieces of equipment, but we don't want to put on so much fuel here that we'll have to spend the rest of the month hauling out the clinkers, so we guess we'll take the high-ball and get out of town.

Clear track for May.

A MILLION MILES.

THE Lake Shore and Michigan Southern mail-train No. 35 and extra coal-train No. 5671 were in rear-end collision at a point fourteen miles west of Toledo on January 31. A brakeman, Edward McKinley, of Toledo, was killed, and ten or more of the two train crews were injured. The mail-train, with Engineer A. G. Reynolds and

Fireman M. L. Curtice in the engine, overtook and crushed the caboose and two rear cars of the freight, derailing and partially overturning the engine of the mail-train, according to reports received.

The cause of the wreck, as given by these reports, was the failure of Mr. Reynolds to observe, soon enough, a signal set against the mail, while he was busy trying to reseat an injector check-valve, on the fireman's side of the engine, which had stuck while open.

The need of this repair was urgent. It was a fast and heavy train. The water was rapidly lowering in the boiler and blowing back into the tank.

This is by no means the first time that an engineer's natural anxiety for the proper working of the injectors, upon which his own life, and the lives of others, largely depend while running fast, has led to disaster. And greatly as it is to be hoped, this will not be the last time that such a thing will happen.

We have no intention of entering upon a discussion of the merits or demerits of this occurrence. We are quite willing to leave that to the able disciplinarians and arm-chair philosophers whose duty or vagrant inclinations lead them to do it so willingly. At the same time we would request these lay-philosophers to be careful in pitting their knowledge of the chances and complex duties of an engineer against that of the engineer himself.

What we have chiefly in mind is the broad, human aspect of this unfortunate event, and the unusual circumstances which attended it.

In THE RAILROAD MAN'S MAGAZINE for September, 1907, we printed a story under the title, "A Modern Mazeppa." There is in that story of wreck and anguish a paragraph that met a quick response in the hearts of experienced railroad men. We have reason to believe that it carried well its message of finality, fellowship, and implied consolation to many of our readers who are best able to appreciate its healing and sober truth.

Just now, it seems to epitomize the thing we wish to say, and to send forth anew a human note broad and deep enough to meet the need of almost any sorrow that, through mishap, may come to a railroad man and his family.

The paragraph, supposedly spoken by a wounded engineer, is as follows:

"You see," he continued, when he had regained control of himself, "there is so much to remember and to do. In most of the affairs of life, mistakes can be corrected—a little lapse of thought, a little extra weariness, a little error of judgment, a little thing undone. But with us it is final and complete. There is no recall, no sufficient extenuation."

That is it. There is no recall for the apparently little thing undone, as in the common, daily derelictions of life. Instead, there are sometimes the irreparable loss of life, the maiming and bruising of crews, and, as in the accident west of Toledo, the added pathos of a lifetime's splendid work marred by one fell stroke at its close.

Picture a man, courageous, kindly, soft-voiced, instinctively a gentleman—in short, the highest type of locomotive engineer—in whose mind the welfare of his fellow workers and the passengers entrusted to his care are ever uppermost.

For forty-one years, two and one-half years of which are spent in firing, he runs consecutively at the head of his train, building up a well-nigh perfect record, and looking ahead to that half-dreaded yet much desired honorable retirement to which every engineer now aspires.

At the end of this more than average span of a working life filled with tense activities, calling out the utmost from every faculty, he has arrived, with hair long since whitened by the strain, at the seventy-year milepost of his life.

If we assume that he has run his trip of say one hundred miles a day for only two out of each three days that have gone with the years, he will have run a million miles or more through that which seems to the wayfaring man a fierce and menacing wilderness of sights and sounds. Forty times the distance around the earth at the equator. One hundred and twenty-five times the distance through it there. One ninety-fifth of the distance from earth to sun!

And if for somewhat more than twenty years of this time he has pulled a passenger-train, he will have led some million or so of humans upon their hurrying ways safely through that wilderness of menacing sights and sounds, not one in a thousand of whom has ever so much as seen him, much less touched his hand or acknowledged him a leader among men.

This, in effect, is the almost matchless record of A. G. Reynolds, engineer of the mail, up to January 31, when he stood in the Toledo station just before starting on his run home to Elkhart, Indiana, with his pension papers in his pocket, retiring him for age at the end of this particular run.

Less than fifteen miles out of Toledo, his engine was ditched. There was death and suffering for his fellows and himself, his spotless record was gone like a breath of vapor blown from his cab-window, and his well-earned retirement upon pension was in doubt.

Unnumbered generations of men have read the story of leadership, of courage, of momentary human weakness overmastered by unflagging zeal for duty, which sustained Moses through forty years of striving through the wilderness toward Canaan.

They have read of the one thing undone—the one failure to observe the detail of the spoken law when common human needs were sorely pressing.

And now that time has truthfully revealed the great law-giver in the long perspective of its passing, the thing that lives in the big, human consciousness is the aching, gripping tragedy of the indomitable leader, ripe in years and honor, trudging courageously to the mountain-top of his ambition, only to look over into the Land of Promise which he might not enter.

Something of this feeling, we believe, will attach to the consideration of the deplorable accident in point, especially among those who best understand the possibility of such happenings in the ordinary course.

At the time of this writing, there is some doubt being expressed as to the eligibility of an engineer to pension for age under the circumstances above recited. There is, however, an additional fact which may be construed in favor of Mr. Reynolds.

It is that he had reached the age-limit of seventy years on the day before the accident, and was, it is said, finishing out the month of January with one last return run to his home station, at his own request, and, of course, with the consent of his superior in authority.

All in all, therefore, we believe we express the sentiment of many railroad men and others, in hoping that, long before this appears in print, this veteran engineer who was treated so shabbily by Fate in the very last hours of his great work may have been honorably enrolled among the pensioned veterans; and that his hurts of body and thought may, with those of the others who likewise suffer, be well upon the way of healing.

"MOTHER'S SIGNAL."

ALBERT CAIN, an old reader of this magazine, has sent us from his home in Cochran, Indiana, the words of the following poem, "Mother's Signal," which is commemorative of John Little, who lost his life in a wreck at Cochran, July 30, 1894, on the B. and O. S. W.

John Little was an engineer,
Careful, skilful, without fear;
A widowed mother was his care
And everything he had to share
With her was shared in equal part,
For John loved her with all his heart.

Each day John Little's train went through,
His "Mother's Signal," Little blew,
And all our town this signal knew,
And well we learned to love it, too.

His train was always run on time,
His love for mother was sublime.
And whether passing east or west
He signaled her whom he loved best.

At first this signal, loud and shrill,
Pierced every one with noisesome thrill;
But after while our whole town knew,
What meant the signal Little blew,
And loved to hear his engine's cry
Each day as Little's train flew by.
So reg'lar Little's train went 'long,
Your watch, with it, could not be wrong.
And thus for years this engineer,
Careful, skilful, without fear,
Went running through, now east, then west—
On all the road he was the best—
And when his mother's town he passed,
John Little blew his loyal blast,
And all the town, as he flew by,
Rejoiced to hear his engine cry
His signal sweet to mother's ear,
And more we loved it, year by year.
'Twas music sweet to ev'ry ear,
And sweeter it grew ev'ry year—
Because it told of filial love,
Most certain of reward above.

At last there came a fatal day,
And Little's spirit passed away!
And nevermore within her town
Is Little's mother's signal blown.
On open switch a freight-train lay,
And John's train had the right of way.
Whose fault? Not his! But in a flash,
There came an awful—awful crash
And wreck such as is seldom known—
And noble Little's soul had flown.
There, underneath his engine bound,
John Little's body, crushed, was found,
The whistle-valve his hand held fast.
One moment more, as he flew past
His mother's home, his signal-call
Would have cheered her and thrilled us all.
And Little's mother, scarce a mile
Away was waiting with a smile,
To hear her boy blow her his love,
When Little's spirit soared above.
His face glowed with a heavenly light,
But Little's soul had taken flight.
Now nevermore that signal will
Echoes wake from hill to hill,
But Lord! Our God! Father in heaven!
If he had sins be they forgiven!
For faithfulness like his—and love—
Must surely find reward above.

BOUQUETS AND KICKS.

ALTHOUGH we are regularly running under two hundred pounds working pressure, we like to occasionally ease up and gather in the kind and unkind words with which our readers are wont to strew our

And mocked at God in your hellish pride;
You've paid full fare, so I carry you through,
For it is only right that you get your due,
For every laborer is worth his hire,
So I land you safe in my lake of fire,
Where my fiery imps will torment you forever,
And all in vain you will sigh for a Savior."
Then Tom awoke with an awful cry;
His clothes soaked wet and his hair standing high.
And he prayed as he had never prayed before
To be saved from hell and the devil's power.
And his crying and praying was not in vain,
For he never more rode on the hell-bound train.

TELL ME NOT!

Tell me not in box-car numbers
Life is but an empty dream.
If you're working for a railroad,
Oh, how happy life must seem!

Life is business on a railroad,
Where you have to do things right.
Do just what the yardmaster tells you,
Labor hard from morn till night.

Lives of railroad men remind us
We must never be sublime,
But when going leave behind us
Garnishes upon our time.

Garnishes which perhaps some other
Wandering on this stormy main—
Some forlorn and wayward brother—
Seeing shall pass on again.

When our working days are over,
And our harvest days are spent,
With our shoes all worn and dusty,
With our backs all tired and bent.

We shall near the gates of heaven,
But inside we'll never get,
For St. Peter there will tell us,
"We've no railroad men here yet."

LIFE'S RAILWAY TO HEAVEN.

BY CHARLIE D. TILLMAN.

(*Copyrighted, 1910, by Charlie D. Tillman.*)

Life is like a mountain railroad,
With an engineer that's brave;
We must make the run successful
From the cradle to the grave;
Watch the curves, the fills, the tunnels,
Never falter, never quail;
Keep your hand upon the throttle,
And your eye upon the rail.

Chorus.
Blessed Savior, Thou wilt guide us
Till we reach that blissful shore,
Where the angels wait to join us,
In Thy praise forevermore.

You will roll up grades of trial,
You will cross the bridge of strife.
See that Christ is your conductor,
On this lightning train of life.
Always mindful of obstruction,
Do your duty, never fail.
Keep your hand upon the throttle,
And your eye upon the rail.

Repeat Chorus.

You will always find obstructions,
Look for storms of wind and rain,
On a fill, or curve, or trestle,
They will almost ditch your train.
Put your trust alone in Jesus,
Never falter, never fail;
Keep your hand upon the throttle,
And your eye upon the rail.

Repeat Chorus.

As you roll across the trestle,
Spanning death's dark, swelling tide,
You behold the union depot,
Into which your train will glide.
There you'll meet the Superintendent,
God, the Father—God, the Son,
With the hearty, joyous plaudit,
"Weary pilgrim, welcome home!"

Repeat Chorus.

MY DAD'S THE ENGINEER.

BY CHARLES GRAHAM.

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We were none of us thinking of danger,
As the train sped on in the night,
'Till the flames from a burning forest
Made the passengers wild with fright.
Then a tiny maid near a window, with a smile, said:
"There's nothing to fear;
I'm sure that no harm will befall you—
My dad's the engineer."

Refrain.

"Daddy's on the engine, don't be afraid;
Daddy knows what he is doing," said the little maid;
"We'll soon be out of danger, don't you ever fear;
Every one is safe, because my Dad's the engineer."

With the sparks falling closely about us,
Through the flames we sped on so fast,
And the brave little maid's father
Brought us through the danger all safe at last;
And the proud, sweet face of his lassie,
And the words of the calm, little dear,
Will live in my mem'ry forever—
"My dad's the engineer."

Refrain.

Warm as the summer beach

If anybody needs or deserves rooms just right to live in, to play in, to sleep in, it is the little folks. In spite of all precautions, the old-fashioned heating methods soon begin to leak or force ash-dust and coal-gases into the living rooms, and the loved ones are made to breathe burned, devitalized air, totally unfit for the lungs. Whereas Hot Water or Low Pressure Steam heating with

AMERICAN RADIATORS & IDEAL BOILERS

will supply pure, warm air to every room in the house in all kinds of weather. These outfits are used exclusively in hospitals, sanitariums, laboratories, colleges, greenhouses, etc., where correct heating and ventilation are an absolute necessity. IDEAL Boilers and AMERICAN Radiators are made in such small sizes, yet with equal completeness, that they are now put into thousands of cottages, houses, stores, etc., at prices easily within reach of all. These outfits soon save their cost by cutting down the fuel bills and absence of repairs; while their cleanliness halves the housework and saves much wear on carpets and furnishings.

Do not wait until you build that new house which you may have in mind. See that your present home is warmed as you know it should be, and it will rent for 10% to 15% more, or sell quickly at a higher price when you leave it. IDEAL Boilers and AMERICAN Radiators are a high-paying investment—not an expense.

A No. C-241 IDEAL Boiler and 555 ft. of 38-in. AMERICAN Radiators, costing the owner $250, were used to Hot-Water heat this cottage.

A No. 3-22 IDEAL Boiler and 400 ft. of 38-in. AMERICAN Radiators, costing the owner $195, were used to Hot-Water heat this cottage.

At these prices the goods can be bought of any reputable, competent fitter. This did not include cost of labor, pipe, valves, freight, etc., which installation is extra and varies according to climatic and other conditions.

Prices are now most favorable, and you get the services of the most skillful fitters. Don't put it off till the soon-coming Fall—write us to-day for free valuable book which tells fully all the hows and whys of IDEAL-AMERICAN heating.

Public Showrooms all large cities

AMERICAN RADIATOR COMPANY

Write to Dept. J CHICAGO

Glenwood Patent Oven Heat Indicator.

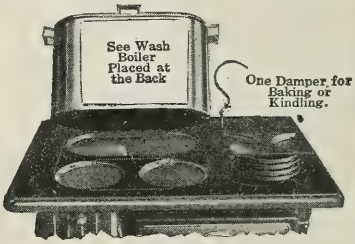
Cabinet Glenwood

Combination Coal, Wood and Gas Range.

No fussy ornamentation or fancy nickel on the Plain Cabinet Glenwood. Just the natural black iron finish. "The Mission Style" applied to a range. A room saver too—like the upright piano. Every essential refined and improved upon.

The Sectional Top prevents warping, and is so planned that by changing the cross-shaped castings that hold the covers (see illustration) a wash-boiler may be placed at back of range, leaving all front holes free for cooking.

The Oven, Damper, Grates and Clean-out are each worthy of special mention.



The Glenwood Gas Range Attachment consisting of Oven, Broiler and Three Burner Top is made to bolt neatly to the end of the coal range when a combination coal and gas range is desired.

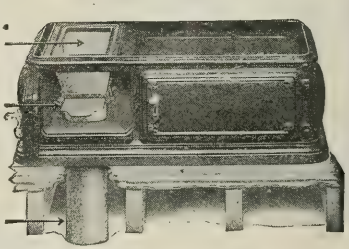
The heat in both coal and gas ovens is registered by the wonderful Glenwood patent oven heat indicator which shows at a glance when to put food in the oven.

If a large amount of baking is required, both the Coal and Gas ovens can be operated at the same time using one for meats and the other for pastry. Being very compact it saves room in the kitchen and

"Makes Cooking Easy."

This range is also made with elevated gas oven instead of end style, shown above, or if gas is not desired, with or without reservoir on right end.

The Glenwood Ash Chute may be used instead of a pan, when kitchen is on first floor. This wonderful convenience saves lugging ashes, as they are dropped direct to ash barrel in basement without a particle of dust or dirt in kitchen (see illustration).



Write for handsome booklet of the plain Cabinet Glenwood Combination Coal, Wood and Gas range, mailed free.

WEIR STOVE CO., TAUNTON, MASS.

Manufacturers of the celebrated Glenwood Ranges, Parlor Stoves, Furnaces, Water and Steam Boilers.

Young Men Wanted

to earn $25 to $50 weekly in the **AUTOMOBILE BUSINESS**

CHAUFFEURS, automobile salesmen and repairmen get big pay for pleasant, congenial work, *because the demand for trained men exceeds the supply.* We have taught hundreds of young men without previous mechanical experience, and we can teach you in ten weeks if you study a few hours a week. The work is interesting. You see everything worth seeing on tours—you go everywhere. Our simple course by mail guarantees efficiency because all our instruction is personal. Our graduates are everywhere, earning $25.00 a week and up. Ask *them* about us and about the positions they have secured.

To Automobile Owners and Garages

When you want competent chauffeurs or men for any class of automobile work, write to us. We can put you in touch with the man you want.

Answer This Ad Today

Ask us for the first lesson. We will send it without any charge, and from it you will get an idea of how we train you in every phase of automobile knowledge. You will be impressed at once with the remarkable thoroughness of the instruction outlined even in this preliminary lesson. Write today—now!

Empire Auto. Institute
945 Dake Bldg.
ROCHESTER, N. Y.

The Original Automobile School.

A New and Becoming Style in

Silver BRAND Collars

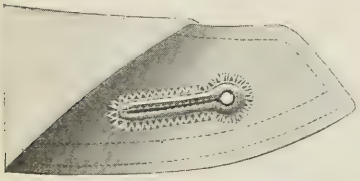
2 for 25c.

The Only Collars with Linocord Endless Buttonholes

Two Heights:
HALLEY, 2⅛ in.
COMET, 2⅜ in.
Quarter Sizes.

In collars the *Style, Fit and Comfort* depend on having strong, sound buttonholes. No matter how good the collar may be in every other particular, once a buttonhole is stretched or broken, you have a gaping, slovenly, ill-fitting collar.

THE LINOCORD BUTTONHOLE is made with an eyelet like the buttonhole in your coat, hence is pliable, easy to put on and off. It is *reinforced all around* with a *Stout Linen Cord,* which makes it so strong it can't possibly stretch or break, even with the hardest or longest wear—a SILVER Collar will always fit and look as the designer intended.



Linocord Endless Eyelet Buttonhole.

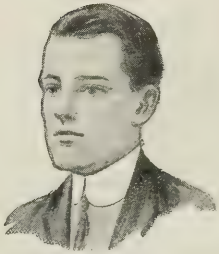
SEND FOR "WHAT'S WHAT."

The latest word in Men's Fashions. It embodies the dicta of the foremost fashion authorities with reference to every item of men's apparel. It not only tells what to wear but also what not to wear. Fully illustrated. Invaluable for reference. Yours for the asking.

GEO. P. IDE & CO., 480 River Street, Troy, New York.

BEVERLY

GRISWOLD



HARBORD

HARMON

Hawes, von Gal HATS

The very newest shapes for spring wear—the style leaders of them all—are shown in Hawes, von Gal Hats. Note especially the beauty of the telescope soft hat—a style becoming to almost every man.

Compare a Hawes, von Gal Hat—either stiff or soft—with a hat of any other make—the quality is apparent. Ask your dealer about the guarantee. Prices, $3, $4 and $5.

We are Makers of the Hawes Celebrated $3.00 Hats

If not at your local dealer's, write for our new Spring Style Book "R." We will fill your order direct from the factory if you will indicate style wanted and give your hat size, your height, weight and waist measure. Add 25 cents to cover cost of expressage.

Hawes, von Gal
INCORPORATED
1178 Broadway, New York

FACTORY:
DANBURY, Connecticut

Wholesale Offices:
CHICAGO BOSTON

Look for this Trade Mark on

Outing Shirts. Negligee Shirts. Men's and Women's Pajamas. Office Coats. Athletic Summer Underwear. Women's Shirt Waists, Etc.

SOIESETTE is the ideal summer fabric for men's ready-to-wear garments. Looks like silk, feels like silk. Much more durable—at a fraction of the cost.

Look for this label SOIESETTE REGISTERED ***on each garment***

Retains its fresh, snappy, lustrous appearance and rich coloring after repeated laundering. Always fashionable, cool, healthful.

By the yard in over 50 shades at all retail stores.

***SOIESETTE* stamped on selvage of every yard**

CLARENCE WHITMAN & CO., Mfrs., 39 Leonard St., New York

OUR EASTER PRIZE OFFER

A Prize for 100 Persons Who Write a Reason for Preferring

SHIRLEY PRESIDENT SUSPENDERS

Your letter, giving one reason "Why a Man Should Prefer SHIRLEY PRESIDENT SUSPENDERS" **may** win one of the 100 Prizes.

THE PRIZES:

1st prize	$50.00 in money
2nd prize	40.00 in money
3rd prize	30.00 in money
4th prize	25.00 in money
5th prize	20.00 in money
6th to 10th prizes	10.00 in money
11th to 20th prizes	5.00 in money

21st to 50th Prizes
1 pair silk SHIRLEY PRESIDENT SUSPENDERS, with gilt trimmings, value $1.

51st to 100th Prizes
1 pair SHIRLEY PRESIDENT SUSPENDERS (Regular 50c. stock).

We want a letter from everyone in every walk of life telling what he believes to be the **one best reason** "Why a Man Should Prefer—

SHIRLEY PRESIDENT SUSPENDERS."

We will pay $50.00 in Cash for the Best Letter of 200 words **or less**, answering this query. And $215.00 more will be apportioned among the 19 next closest competitors.

Besides these cash prizes, we will distribute 80 pairs of SHIRLEY PRESIDENT SUSPENDERS to eighty other contestants.

This contest is wide open to anyone, anywhere. There is no fee, no condition, no obligation. Simply state on one side of your paper what you consider the One Best Reason "Why a Man Should Prefer SHIRLEY PRESIDENT SUSPENDERS."

Then sign your name, indicate plainly your address, and give the name of your Clothing Dealer, or Haberdasher, and **his address.** It is essential that we have the dealer's address, for the prizes will be distributed through him **whether he sells SHIRLEY PRESIDENT SUSPENDERS or not.**

Give one reason only. Make your letter short—not more than 200 words. (Date, Address, Signature and Dealer's Name **not** being counted as words.) Forget grammar and avoid "advertisy" adjectives. What we want is a simple expression of your reason for preferring SHIRLEY PRESIDENT SUSPENDERS to all other kinds.

CONTEST CLOSES APRIL 15th

—and all letters postmarked after midnight of the 15th will be disqualified. Watch our advertisements closely after that date. P. F. Collier & Son and The Frank A. Munsey Company will each furnish an expert to assist Mr. C. F. Edgarton, of The C. A. Edgarton Manufacturing Company, in selecting the Best Letters. The names of the winners will be announced and prizes awarded about May 10th.

There are plenty of Reasons for preferring SHIRLEY PRESIDENT SUSPENDERS, but what particular feature appeals to you—and why? Tell us in a Contest Letter.

The C. A. Edgarton Mfg. Co.
SHIRLEY PRESIDENT SUSPENDERS

1769 MAIN STREET, SHIRLEY, MASS.

"Onyx" Hosiery

Trade *Mark*

For Men

Good Men and True Everywhere

Learn how and where to get Good Hosiery, not for to-day, but for all time

Commit to memory the **TRADE MARK,** illustrated above, stamped on every pair of "*Onyx*" Hosiery, so that you cannot fail to get the satisfactory kind. **No Trade Mark ever stood for such Honest Value as this.**

The New "Onyx" Doublex Quality

will interest you. It consists in the re-enforcement of heel and toe with a specially prepared yarn of extra strength, doubling the wearing Quality. All weights from medium to sheerest fabric, in Cotton, Lisle, Silklisle and pure Thread Silk, have this important feature, and shown in great color range.

Colors—Black, White, Tan, Paris Tan, French Grey, London Smoke, Cadet, Navy, Reseda, Amethyst, Purple, Ruby, in fact all shades to match any color scheme desired.

A few of the many excellent Qualities are described below—Try them—You will place the "*Onyx*" Brand on a par with your favorite brand of cigar.

Make it your Business to get a pair of "Onyx" Hose and know what good hosiery is really like

E 380 Men's "ONYX" Black and Colored Gossamer Lisle "Doublex" Heel and Toe, very superior quality, and exquisite weight for Spring wear . . . 50c a pair

E 325 Men's "ONYX" Black and Colored Silklisle "Doublex" Heel and Toe, re-enforced sole, feels and looks like silk; wears better; without exception the best value obtainable . . . . . 50c a pair

E 310 Men's "ONYX" Black and Colored Lisle "Doublex" Heel and Toe, double sole, special woven six thread heel and toe, and four thread all over . 50c a pair

930/8 Men's "ONYX" Black and Colored Silklisle with self clocks, "Doublex" Quality; re-enforced heel, sole and toe . . . . . 50c a pair

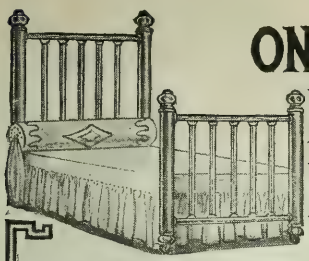
E 330 Men's "ONYX" Black and Colored Silklisle "Doublex" Heel and Toe, re-enforced sole; soft, lustrous, silky, gauze weight; the equal of this quality does not exist . . . . . 75c a pair

E 311 Men's "ONYX" Black only "Doublex" Heel and Toe, double sole; finest quality sea island combed Lisle; the sheerest weight made; will be a revelation in fineness of texture and durability . . . 75c a pair

620 Men's "ONYX" Black and Colored Pure Thread Silk inner lisle-lined sole; doubles life of hose; one of the most reliable silk numbers, $1.50 a pair

If your dealer cannot supply you, we will direct you to nearest dealer, or send, postpaid, any number desired. Write to Dept. 93.

Lord & Taylor *Wholesale Distributors* *New York*



ON SMALL MONTHLY PAYMENTS

BRASS BED Massive ALL-BRASS BED, large *2-inch posts*, any width desired, heavy genuine French lacquer, guaranteed 10 years, in either bright or satin finish; most extraordinary value. ***Terms $2 cash, $1 month*** **12.95**

Homes Furnished

Everything for the home on Open Account Credit—the credit that is so much appreciated by the best families in Chicago to-day. This splendid credit service is now offered to you no matter where you live or what your salary or position may be. It's credit of the highest character—thoroughly dignified and pleasant—very convenient and helpful. You send a very small sum with order, we ship goods at once and you pay us as you find it convenient. You may take a year on every purchase. We charge absolutely nothing for this credit service—no interest—no extras of any kind. No security required. Absolute satisfaction or money back. Everything confidential.

CATALOG No. 142 FREE

Write for our Big New Catalog. It's an immense volume, beautifully illustrated in colors, quoting factory prices on furniture, carpets, rugs, curtains, pianos, sewing machines, crockery, clocks, lamps, silverware, go-carts, refrigerators, stoves, ranges, etc., etc. Write at once for this great Bargain Catalog—write today

Hartman Furniture & Carpet Co.
Dept. 0-3 223-229 Wabash Ave., Chicago, U. S. A.
Largest, oldest and best known homefurnishing concern in America. Established 1855—55 years of success—22 big stores—over 2,000,000 homes furnished—over 700,000 customers today—capital and resources larger than that of any similar concern in the country.

IT WOULD COST more than $11,000 to send a post-card to the million-and-more homes that read "The Argosy Combination" every month.

Advertisers who *know* are using this short-cut

Classified Advertising

	Rate per Line	
The Argosy	$1.50	Special Combination Rate $3.00
The All-Story Magazine	1.00	
The Railroad Man's Magazine	.75	
The Cavalier	.50	
	$3.75	

Minimum 4 lines; Maximum 12 lines. Ten per cent discount for six consecutive insertions.

The Frank A. Munsey Company
175 Fifth Avenue, New York

Come! Quick! Danger!

Are you prepared for this call—no matter from which department it comes? Just think what it would mean to have constantly at your elbow for consultation, an expert on the very problems that puzzle you. That's just what you would have in the

CYCLOPEDIA OF APPLIED ELECTRICITY

Six Big Volumes—Bound in Half Morocco—2,896 Pages 7 x 10 inches—printed on special paper in large, clear type—2,000 full page plates, diagrams, formulas, etc.

Written by thirty expert Electrical Engineers, the biggest men in the profession. It is a working guide for the student or practical electrician, or a ready reference work for the expert.

Examine the Books at Our Expense

So confident are we that the books are just what you want, that we will send them to you by prepaid express—you keep the books 5 days—examine them carefully, test them, apply them to your every-day work. If satisfied that the books are the most complete and comprehensive work ever published on electricity, keep them, send $2.00 within five days and $2.00 a month until you have paid $18.80, the special introductory price—the regular list price is $36.00. If not suited to your needs, notify us. We will send for them at our expense. **Fill in and mail the coupon today—the books will be sent you at once.**

IMPORTANT SUBJECTS TREATED

Electric Wiring—Electric Telegraph—Wireless Telegraphy—Telautograph—Theory, Calculation, Design and Construction of Generators and Motors—Types of Dynamos and Motors—Elevators—Direct Current Motors—Direct-Driven Machine Shop Tools—Electric Lighting—Electric Railways—Management of Dynamos and Motors—Power Stations—Central Station Engineering—Storage Batteries—Power Transmission—Alternating Current Machinery—Telephony—Automatic Telephone—Wireless Telephony, etc.

For a short time we will include, as a monthly supplement, for one year, the TECHNICAL WORLD MAGAZINE. This is a regular $1.50 monthly, full of Twentieth Century Scientific facts, written in popular form. Also contains the latest discussions on timely topics in invention, discovery, industry, etc.

FREE OFFER COUPON

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CHICAGO, U. S. A.

Please send set Cyclopedia of Applied Electricity for five days' free examination. Also T. W. for one year. I will send $2 within five days and $2 a month until I have paid $18.80; or notify you and hold the books subject to your order. Title not to pass until fully paid.

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ADDRESS .....

OCCUPATION.....

EMPLOYER .....

R. R. Man's, 4-'10

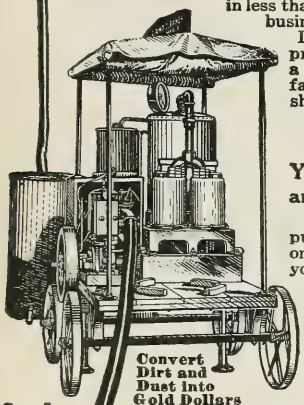
$20.00 to $50.00 A Day Easily Made

Go in Business for Yourself

Let Us Send You a

Little Giant Cleaner On 30 Days Trial

A Little Giant Cleaner should pay for itself in less than two months, out of the profits of the business after paying help and all expenses. It is capable of earning $250.00 to $300.00 clear profit a month and we cannot see where there is a possible chance for anyone that buys a machine to fail to make big money, but every reason why they should make thousands of dollars.



Convert Dirt and Dust into Gold Dollars

Send for the Free Book, it Tells All

Give Us a Chance to Help You

You can make $2500 to $3000 a year on each machine. It advertises itself and orders for work come pouring in so you should be busy all the time.

The Little Giant House Cleaner is proving one of the greatest money-makers ever put on the market. If you are willing to hustle you can easily make $2,500 to $3,000 a year on each machine you own. Make a start to-day and you will never regret it. As soon as you earn money enough and have one machine paid for, buy another, hire other men and let them make $10 or $15 a day for you. Getting one of these machines and hiring a man to run it, beats working for a living to a standstill. Be "Johnny on the Spot" with a machine and get the cream of the business. If you can get a number of these machines working, **they should make you rich.** We believe there never has been a machine placed on the market that has so pleased everybody, met with such immediate success, and made so much money as the house cleaning machine.

A Perfect Wonder

The Little Giant reaches every crack, corner and crevice of the floor; the cracks in the wall, the ceiling and mouldings. It cleans and renovates bedding, comforts, blankets, mattresses and pillows; the cracks or crevices in wooden and iron beds; even the dust, fuzz and other accumulation in tightly coiled woven-wire springs.

It consists of a powerful gasoline engine, a double acting suction air pump, a vacuum condenser, cold water tank, electric spark battery, vacuum gauge, high-pressure suction hose, observation glass and cleaning tools—all properly connected so as to work in unison and give the desired results. The whole is erected on a substantial four-wheel wagon, to be drawn by hand, so that it can be moved from place to place.

Nothing to Compare With It.

There are several small machines on the market for home use to be worked either by hand or a small water or electric motor, but they have never been a success because they do not have power enough to clean with, although they will draw the top dust from the room. **The Little Giant Cleaner** does the same work in the same way as the large machines costing from $2,000 to $7,000 each. It has the same size hose.

We have seen it pull out pail after pail of dirt from houses—dirt that was impossible to remove completely by the ordinary means of beating, etc. When it is working on the streets, the dirt and filth pouring through the observation glass attracts a crowd of people that look with wonder. They would not believe it possible.

Our Liberal Offer—Pay for it Out of Your Profits

We want you to investigate this exceptional opportunity. We do not believe there is any business where so small an investment will bring such wonderful returns, because right here in Toledo we have proved this by our own actual experience.

We have such implicit confidence in the wonderful money-making powers of the **Little Giant House Cleaner**—that we will ship one to any live man, who is honest and willing to work, **on 30 Day's Trial**—upon such liberal terms that it is next to impossible to lose. We will even go further and allow you to **pay for it in Installments,** and in such a way that your profit should easily take care of your payments.

In our illustrated book we give full particulars as to how to organize your business solicit orders, what to charge for the work and how to turn every minute of your time into money. We will send it to you **free.** Every ambitious man who has any "get-up" in him should write at once for this book. A postage stamp will bring it to you and it will show you how you can become independent and one of the prosperous men in your community.

Send the Coupon for Free Book, full information and Our Easy Terms.

McCreery Manufacturing Co.
114 McCreery Building
Toledo, Ohio

Cut off here—Write plainly

McCreery Mf'g Co., 114 McCreery Bldg., Toledo, Ohio

Please send me your free book and full information about The Little Giant House Cleaner.

Name.....

Address.....

FISH, OYSTERS, All Sea Foods

No better or more delicate flavor can be added to all Fish Cooking than by using

LEA & PERRINS SAUCE

THE ORIGINAL WORCESTERSHIRE

Soups, Stews and Hashes, Steaks, Roasts, Chops, Game, Gravies, Chafing Dish Cooking, Salads, Welsh Rarebit and many other dishes are improved by its use.

See that **Lea & Perrins'** Signature is on Wrapper and Label.

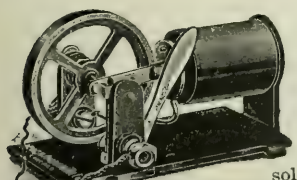
Avoid Imitations. JOHN DUNCAN'S SONS, Agents, New York.

NO MAN OR WOMAN wastes time in reading the advertising pages of *The Railroad Man's Magazine.* They are instructive, informative, and full of new ideas.

Somewhere in this advertising section there is a description of *something* you want, and the advertisement is going to suggest it to your mind.

If it accomplishes this, and offers the article to you at a saving in dollars and cents, *it has done you a real service.*

Why not let these advertisements help you?



This Electric Engine FREE

with one year's subscription to

The Magazine of Events

POPULAR ELECTRICITY

The attractive electric engine we offer is 2½ times size shown in illustration. It runs like lightning a long time on one cell of ordinary wet or dry battery. Not a cheap cast iron toy, but a perfect engine made on the scientific solenoid principle. Has a speed control and reversing lever; very powerful, interesting and instructive. Your boy may be the future Edison; give him a start. Both of you will enjoy reading the **Miracles of Electricity** in plain, simple language.

Popular Electricity is an intensely interesting magazine to young and old alike; in fact, everybody who wishes up-to-date information on all electrical events. Every issue **tells in plain English** and beautifully pictures the many new and wonderful things accomplished daily by electricity—things that you would never know of or even dream of unless you read this monthly publication.

Its pages transform dry technical accounts into fascinating and instructive stories, in language so plain and simple that everyone can get a clear knowledge of the wonderful mysteries of electricity. **100 or more illustrations each month.**

Every issue as interesting as the most fascinating romance; every reading leaves one better informed and benefited as well as happily entertained. Cleanest and best magazine published.

Send us $1.00 (Canadian $1.35, Foreign $1 50), regular yearly subscription price, and get this scientific Electric Engine at once and receive the magazine regularly for the next 12 months.

POPULAR ELECTRICITY PUBLISHING CO.

1247 Monadnock Bldg., Chicago, Ill.

Be the Master

Complete Cyclopedia of ENGINEERING

Only the man who is **"The Master"**—**master** of himself—**master** of his trade or profession, wins great success.

You can educate yourself—you can prepare for advancement by using a portion of this Great Specialized Engineering Library.

The Cyclopedia of Engineering

is a practical, general reference work on steam boilers, steam, gas and oil engines, marine and locomotive work, mechanical drawing, management of dynamos and motors, electric lighting and wiring, etc.

These six volumes contain 3,200 pages, size 7 x 10 inches, and over 2,000 full-page plates, drawings, diagrams, formulas, tables, etc. Also contains a series of practical test questions, with solutions, and is carefully indexed for ready reference.

Read This Liberal Offer

$2.00 Down—$2.00 a Month

Upon receipt of coupon we will send you a set of this great Cyclopedia, by prepaid express, without deposit or guarantee of any kind. Keep the books five days, examine them carefully, give them every possible test. We want you to be the judge—you are under no obligations.

If you decide the books are not what you want, advise us and we will have them returned at our expense. If you keep the books, send us $2.00 within five days, then $2.00 a month until you have paid the special price of $18.80. The regular list price is $36.00.

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Steam, Gas and Oil Engines, Calorimeters, Pumps, Elevators, Indicators, Valve Gears, Turbines, Compression and Absorption Refrigeration, Gaseous and Liquid Fuel, Condensers, Navigation, Air Brakes, Machine Shop Work, Ventilation, Heating, Air Compressors, Principles and Management of Direct Current Dynamos and Motors, Storage Batteries, Automobiles, etc.

Special Offer If You Mail Coupon Promptly

For a short time we will include, as a monthly supplement, for one year, the TECHNICAL WORLD MAGAZINE. This is a regular $1.50 monthly, full of Twentieth Century Scientific facts, written in popular form. Also contains the latest discussion on timely topics in invention, discovery, industry, etc.

FREE OFFER COUPON

AMERICAN SCHOOL of CORRESPONDENCE

Chicago, U. S. A.

Please send set Cyclopedia of Engineering for 5 days' free examination, also Technical World for 1 year. I will send $2 within 5 days and $2 a month until I have paid $18.80; or notify you to send for the books. Title not to pass until fully paid.

NAME .....

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OCCUPATION .....

EMPLOYER .....

R. R. Man's, 4-'10

Send Today for Our Personal to You Offer to First Buyers in Each Community of Hand-Made Schmoller & Mueller Pianos

Five thousand HAND-MADE SCHMOLLER & MUELLER PIANOS to sell this season. An impossible task—were we offering any other than a **High Grade, Fully Guaranteed for Twenty-five Years, Sweet** and **Mellow Toned SCHMOLLER & MUELLER Piano.**

But this Piano sells itself. It makes numberless friends. Often—one SCHMOLLER & MUELLER PIANO in a new community helps to sell 3, 4, 6 and even 12 other SCHMOLLER & MUELLER PIANOS. Makes customers—lifelong—friends—that's the record of this Piano, which has created such favorable comment with music lovers everywhere.

So—our task in finding buyers for these Five Thousand **SCHMOLLER & MUELLER PIANOS** will be easy by placing one **SCHMOLLER & MUELLER PIANO** in every community.

To first buyers our proposition is unparalleled. Never has it been approached. A straight-out-and-out saving of $100.00 to $150.00 of customary middlemen's profits which buyers pay when purchasing from dealers has always been the record of saving of the **SCHMOLLER & MUELLER PIANO.** This **first buyer proposition** means a still greater saving.

We can't take the space to give it here, but will tell you all about it if you write to-day as the first buyer in your community. Use coupon, fill out plainly and send direct to us.

Our **Complete Personal First Buyer Proposition** comes back to you by return mail with our **Complete Handsomely Illustrated Piano Book.** Do it right now. Send to

Schmoller & Mueller Piano Co.

Dept. A. C. 04. (Est. 1859) OMAHA, NEB.

. . FILL OUT COUPON. SEND TO-DAY . .

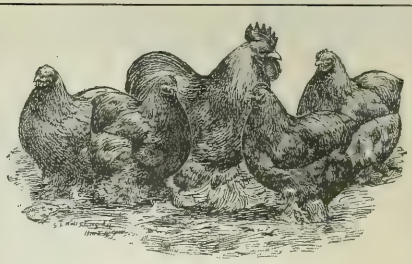
Schmoller & Mueller Piano Co.,
Department A. C. 04, Omaha, Neb.

Gentlemen—I would like to have your proposition to the First Buyer in My Community. Please send to my address all information and your **Complete Piano** Book.

Name .....

Address .....

Beginning With 24 Hens You Can CLEAR $1440 PER YEAR



GUARANTEE

WE do hereby agree to refund the full purchase price of the MILLER SYSTEM BOOK by return mail to any purchaser at the regular price, who, having followed the system as directed therein, fails to realize the results claimed below. This guarantee is good for one year.

Show this guarantee to your lawyer.

Claims Included in Guarantee

1. Men and women alike can operate the Miller System without previous experience and secure the full results.

2. The hens can be at free range or penned up.

3. Only a garden plot of ground is necessary for 24 hens.

4. No specially built coops are needed.

5. Cost for Miller feed for each hen, 5 cents per month. Number of eggs laid not less than 220 per hen per year.

6. Cost of feed for maturing a broiler, 5 cents. Time required, seven weeks.

7. Cost of feed for maturing a laying pullet, 15 cents; time required, five months.

8. The **Miller Brooder** is heated by spontaneous combustion. Fuel costs ¼ cent a month. It requires refilling once in 2 months. The result is heat of same "feeling" and temperature as body heat of a hen. And it is uniform regardless of weather conditions. Ninety per cent. of chicks will positively mature. Almost no attention is required.

9. The Miller System will compel each hen to net not less than $25.00 a year, and if the system is completely obeyed $120.00 a year—$60.00 per hen a year being easy to attain.

EVEN A TEN DAY TEST will show a high increase in egg production and decrease in expense. Hens respond immediately to our method. Thirty days will suffice to demonstrate the value of our foods and feeder in speedy maturing of chicks. If not satisfied with the results you get from either or both of these tests, return book and we will refund purchase price.

There is a reason why the Miller System brings these wonderful results. It will all seem "so simple" when you read

THE MILLER SYSTEM BOOK

It is in three books or volumes, the regular price being 50c. per volume. These three volumes bound under one cover make a work of over 150 pages.

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VOL. II. is a hand-book of Miller System Secrets. It is a condensed encyclopedia arranged for ready reference.

VOL. III. contains symptoms and cures for the poultry diseases, including Roupe, Cholera, White Diarrhea, etc.

SPECIAL OFFER *Send $1.50 for Miller System Book (the three complete volumes bound in one), and your name will be placed on subscription list for twelve months of Poultry Monthly, the official organ of the Miller System, which contains the Miller System Monthly Supplement, and keeps the system up to date. It is a place for questions and answers and for discussions of Miller System users.*

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THE TOOL OF A HUNDRED USES

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You can cut cord, wire, metal, nails, or even a hair. Think a moment of such a high development in cutlery, and the lasting quality is assured by factory tests.

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You can place or remove screw-eyes, screws or screw-hooks.

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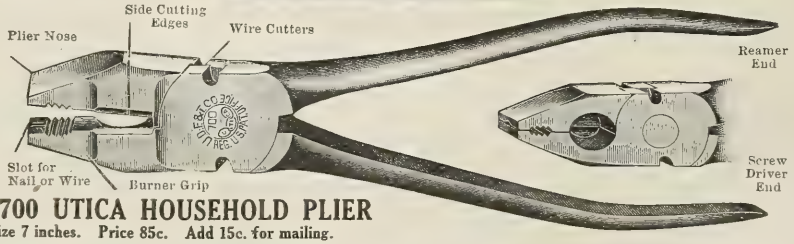
You can remove hot pots or pans from the stove, or

You can open a box or a can.

Its uses are unnumbered.



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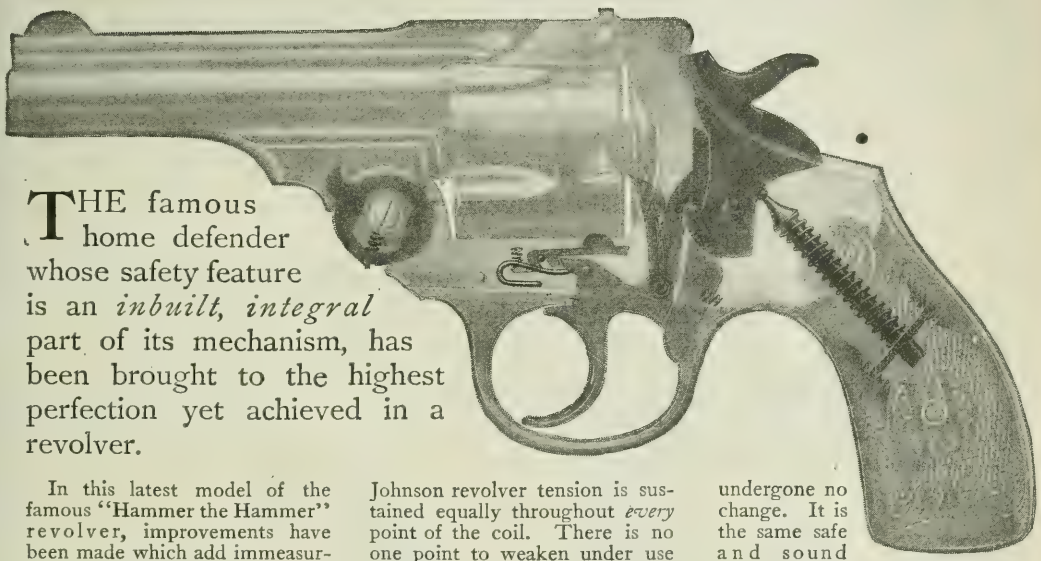
Announcement

The NEW IVER JOHNSON

Safety Automatic Revolver



THE famous home defender whose safety feature is an *inbuilt, integral* part of its mechanism, has been brought to the highest perfection yet achieved in a revolver.

In this latest model of the famous "Hammer the Hammer" revolver, improvements have been made which add immeasurably to smoothness of action, certainty of fire, and durability of mechanism in a small arm.

Every spring in the New Iver Johnson Revolver is made of finest piano wire, drawn tempered, replacing the old flat springs. Coil springs are insisted upon by the United States Government in its rifles wherever possible. Note these coil springs in the "ghost picture" above.

The flat, or "kick" spring of old type revolvers is always at greatest tension at one point, and after long use fatigue attacks the metal at that point and the spring weakens or breaks down.

In the coil springs of the Iver Johnson revolver tension is sustained equally throughout *every* point of the coil. There is no one point to weaken under use and finally break down—and leave you defenseless in a moment when possibly life depends upon action. It is positive, trustworthy and practically good for the life of the revolver itself.

The Iver Johnson is the first and only revolver equipped with this type of spring at every possible point. It is positively the highest type of small arm ever made. And while fitted to work as smooth as velvet, the action of the Iver Johnson is simple, strong and dependable for a lifetime.

The safety action of the Iver Johnson Revolver is as impossible to improve upon as it is impossible to imitate and has therefore undergone no change. It is the same safe and sound "Hammer the Hammer." It safeguards you from accident without your having to remember any directions how to use, to push a slide or press a button when you want to shoot—say in an emergency. It is *always* ready to shoot, instantly, accurately and hard.

The accurate, splendid shooting qualities and high penetration of the Iver Johnson are unsurpassed because the barrel (drop forged from the finest steel made for the purpose) is rifled as accurately as in revolvers that cost several times as much. The bullet flies fast and true. The Iver Johnson is in a class all its own.

Our Booklet, "Shots," mailed FREE with catalogue, explains the superior features of our revolvers, including the new models:

Iver Johnson Safety Hammer Revolver
3-inch barrel, nickel-plated finish, 22 rim-fire cartridge, 32 or 38 center fire cartridge **$6.00**

Iver Johnson Safety Hammerless Revolver
3-inch barrel, nickel-plated finish, 32 or 38 center-fire cartridge..... **$7.00**

Nearly all sporting goods or hardware dealers carry, and will gladly demonstrate Iver Johnson Revolvers and their safety features.

Where our Revolvers are unobtainable locally, we ship direct on receipt of price. The Owl's head on the grip and our name on the barrel mark the *genuine*.

IVER JOHNSON'S ARMS & CYCLE WORKS, 172 River St., Fitchburg, Mass.

NEW YORK—99 Chambers St. HAMBURG, GERMANY—Pickhuben 4. PACIFIC COAST—717 Market St., San Francisco
LONDON, ENGLAND—17 Mincing Lane, E. C.

Makers of Iver Johnson Single Barrel Shot Guns and Iver Johnson Truss Bridge Bicycles

INVEST YOUR SAVINGS
Remarkable Profit-Sharing Offer

NEVER before has the small investor had a better opportunity to place his savings where they will be amply protected and at the same time produce for him a **guaranteed income.**

If you have $50, $100 or $1,000, or if you can save a few dollars each month, which you would invest where it will provide you with a large immediate income, with the opportunity for still greater profits, you will be interested in reading a book we have just issued and which we will send to you free on request.

In this book we have outlined the story of **the foremost business of its kind in America,** of the splendid success of the business, of its unusually large profits, and of the stability of its earnings.

In this book we have also outlined, as a part of its plan for handling its large and increasing business, an offer made by this Company by which you may share, on an unusual basis, in the greater profits which this Company will make.

Please Note These Facts:

1. **Your investment is guaranteed by ample assets of great value.**
2. **You will receive dividends from the very start.**
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5. **It has very great prospects for the future.**

In addition to the **guaranteed income paid at once,** the opportunity offered is extraordinary because of **the profit-sharing feature,** by which you may share **permanently** in **all** the future profits of the Company, in its large and rapidly increasing business.

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This most interesting book, fully explaining our "Profit-Sharing Offer," will be mailed to you promptly on request.

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R.R.M.
4-'10

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Please send me book explaining your "Profit-Sharing Offer" without obligation on my part.

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PIANO
$350 and Upward

This piano is so different from others that only by reading the catalog can you understand its advantages. Will you not fill out this coupon and mail it today?

LYON & HEALY
Makers of the Lyon & Healy Piano and the Lyon & Healy Harp

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Messrs. LYON & HEALY,
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When you were engaged
Why not now?

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25,000 women know that the Imperial Self-heating Flat-iron makes ironing comfortable because of less heat, and saves its cost in fuel. Uses gasoline or alcohol. No wires, tubes or strings—just a plain iron—heats itself—satisfaction guaranteed. Without question the most satisfactory self-heating iron made. 25,000 in use already. One salesman has sold 3,000 in California.

Write for booklet and address of nearest agency—no charge.

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EDISON

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Mr. Edison says: "I WANT to see a Phonograph in every American Home."

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Try this great latest style phonograph in your home; play the beautiful Edison gold moulded and Amberol records, and if *then* you do not care to keep the outfit, return it at our expense. We do not charge you one cent for the trial.

$2.00 a Month now buys a genuine Edison phonograph, easiest possible payments at rock-bottom prices—*and no interest on payments.* Our beautiful catalog quotes absolutely rock-bottom prices—the magnificent latest style Outfit No. 10—at about *one fourth* the cost of inferior imitations.

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Send No Money

We do not ask a penny of your money until you have examined, tried on and compared our garments with any to be found anywhere in the world. You take no risk, for your own eyes judge our values.

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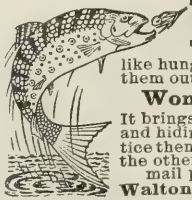
Stand acid test and expert examination. We guarantee them. **See them first—then pay. Special Offer** — 14k Tiffany ring 1 ct. $5.98. Gents ring 1 ct. $6.98. 14k Stud 1 ct. $4.86. Sent C.O.D. for inspection. **Catalog FREE**, shows full line. Patent ring gauge included, 10c. The **Baroda Co., Dept. A12 838 N. State St., Chicago**



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like hungry wolves and keep you busy pulling them out, whenever, or wherever you use our

Wonderful Fish-Luring Bait.

It brings the finny beauties from their haunts and hiding places when no other bait will entice them. You catch a big string of fish while the other fellow is waiting for a bite. Sent by mail prepaid for 25cts. Booklets Free.

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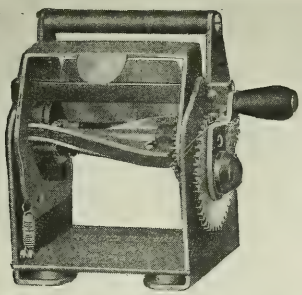

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For Safety or Ordinary Blades

You will be amazed at the difference in the edge. It's easy too. Just turn the crank—every revolution gives ***six complete stroppings.*** It is just like the ***expert's twist of the wrist***—the true principle of good stropping. It makes the old blades better than new and new blades better than ever. Write for free trial offer. If you desire, send name of your dealer. ***Name style of razor, if safety.*** Satisfaction positively guaranteed or money back.

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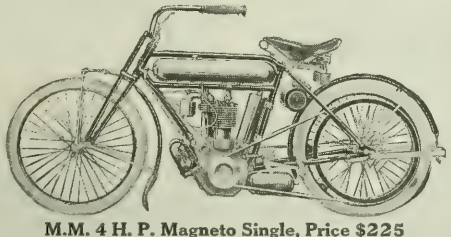
1 cent for 4 miles on a motorcycle

The motorcycle combines the attractiveness of bicycling with the comfort of automobiling. It offers you the cheapest method of mechanical transportation ever devised—¼ of one cent per mile pays for both fuel and oil. It provides just enough physical exercise in the open air to stimulate—not fatigue.



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Investigate the claims we make for motorcycling in general and for the M. M. motorcycle in particular. The M. M. is the leader, and 1910 models are better than ever. Let us send you catalog and other literature.

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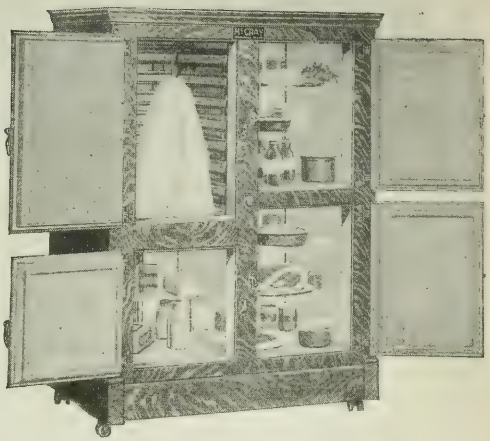
AGENTS EVERYWHERE



What do you find when you open your refrigerator?

Do you find clean, sweet, wholesome food and nothing else; or do you find partially spoiled food, moisture and unpleasant odors? If you find the latter it means your refrigerator is unsanitary—a possible source of sickness to yourself or family. Do not temporize if you have this kind of a refrigerator. Investigate at once the merits of the famous

McCRAY Refrigerators

—the kind that are clean and wholesome because there is always a constant circulation of cold, dry air through every food compartment as long as a pound of ice remains. Ordinary refrigerators cannot keep food the way the McCray does, because ordinary refrigerators do not have the McCray patented construction. TRY YOUR ICE BOX by placing salt in it for a few hours. Note how quickly the salt becomes damp and lumpy; then write for booklet which tells why it will keep dry in a McCray, and why it is the safest as well as the most economical refrigerator you can buy.

Write for the Free Book

"How to Use Leftover Foods"—by Elizabeth O. Hiller, and for any of these free catalogs:—No. A. H., Built-to-order for Residences; No. 87, regular sizes for Residences; No. 67, for Groceries; No. 59, for Meat Markets; No. 48, for Hotels, Clubs and Institutions; No. 72, for Flower Shops.

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STARTLING OPPORTUNITY TO MAKE MONEY FAST. AT HOME OR TRAVELING---ALL OR SPARE TIME

Experience not necessary. Honesty and willingness to work all we ask. We will give you an appointment worth **$50 to $75 every week** You can be independent. Always have money in abundance and pleasant position selling **greatest labor saving household invention brought forth in fifty years. LISTEN:**—One man's orders **$2,650.00 one month,** profit $1,650.00. Sylvester Baker, of Pa., **a boy of 14** made $9.00 in 2½ hours. C. C. Tanner Ia., **80 years old,** averages five sales to seven calls. See what a wonderful opportunity! **Room for YOU,** no matter what your age or experience, or where you are located—if you are square and will act quick. But don't delay—territory is going fast. Read what others are doing and be influenced by their success. **WORK FOR US AND GET RICH.**

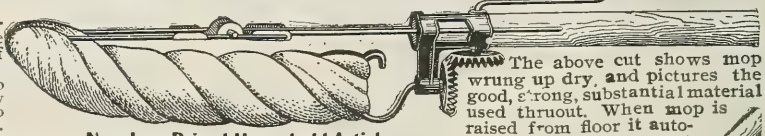
"I do not see how a better seller could be manufactured," writes Parker J. Townsend, Minn. "Called at twenty homes, made nineteen sales,"—E. A. Martin, Mich. "Most simple, practical, necessary household article I have ever seen" says E. W. Melvin, SanFrancisco. "Took six dozen orders in four days,"—W. R. Hill, Ill. "Went out first morning, took sixteen orders,"—N. H. Torrence, New York **"Started out 10 a. m., sold thirty-five by 4 o'clock,"**—J. R. Thomas, Colo. **"Sold 131 in two days,"**—G W. Handy, New York. "I have sold goods for years, but frankly, I have never had a seller like this,"—W. P. Spangenberg, N. J. **"Canvassed eleven families, took eleven orders,"**—E. Randall, Minn. **"SOLD EIGHTEEN FIRST 4½ HOURS.** Will start one man working for me today, another Saturday,"—Elmer Menn, Wis.

These words are real—they are honest. Every order was delivered, accepted and the money paid in cash. Every letter is right here in our office, and we will give the full postoffice address of any man or woman we have named if you doubt. This is a big, reliable, manufacturing company, incorporated under the laws of the State of Ohio, and every statement we make is **absolutely sincere and true. YOU CAN MAKE THIS MONEY:** You can make

$3000.00 in 3 Months

TURNCRANK TO WRING

THE NEW EASY WRINGER MOP



New Low Priced Household Article.

selling this great invention—**The Easy-Wringer Mop**—the biggest money maker of the age. Think of it! **A Self-Wringing Mop.** No putting hands into the dirty water. No aching backs. No slopping against woodwork. No soiled clothes. No contracting deadly disease from touching hands to filth and germs that come from floor. Can use scalding water containing strong lye. **Two turns of crank wrings out every drop of water.** Makes house-keeping a pleasure---Makes the day happy. Simple, practical, reliable, it lasts for years. Every woman is interested---and buys. **No talking necessary--it sells itself.** Simply show it and take the order. **Could you imagine an easier, quicker, better way to make money than supplying this demand already created?**

The above cut shows mop wrung up dry, and pictures the good, strong, substantial material used thruout. When mop is raised from floor it automatically straightens out ready for wringing

This smaller picture shows mop on floor. It spreads out and is held down to floor at all points.

We want more **agents, salesmen, managers,** to fill orders, appoint, supply control sub-agents, **150 per cent profit.** No investment required. **We own patents and give you exclusive territory, protection, co-operation, assistance. You can't fail,** because you **risk nothing. HUNDREDS ARE GETTING RICH.** Act quick. Write for your county today. **WE WANT A THOUSAND MEN AND WOMEN.**

Send no Money: Only your name and address on a postal card for information, offer and valuable booklet **FREE** Tomorrow belongs to the one behind--**the opportunity is open TODAY.** Write your name and address clearly, giving name of county.

THE U. S. MOP COMPANY, 913 MAIN ST., LEIPSIC, OHIO.

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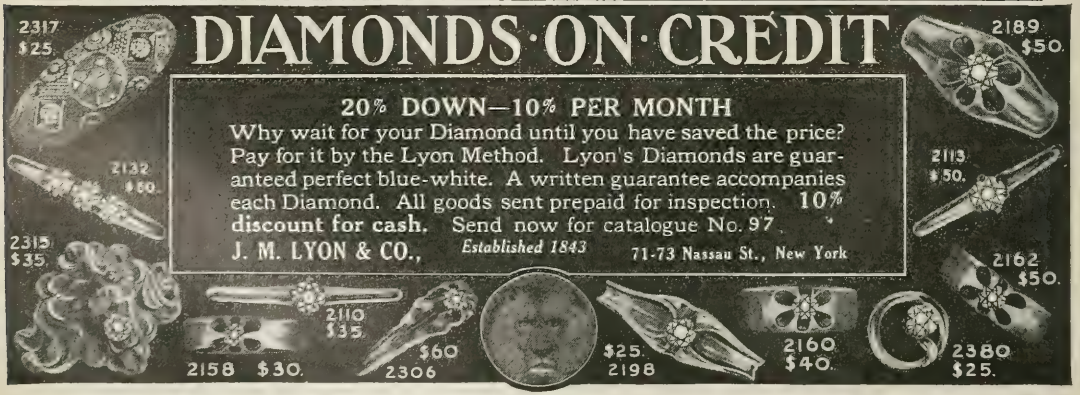
I Teach Real Salesmanship

You can be a salesman. Increase your power to convince others, earn from $1,200 to $10,000 a year. I am the only man teaching salesmanship who is sales manager of a wholesale house and an official of United Commercial Travelers of America. Write for my **free magazine "The Salesman,"** and how you can become a **Traveling Salesman.** My graduates hold paying positions and **I can assist YOU to profitable employment.** Most practical, highly endorsed course in the world. No matter where you live, or what your occupation, write me today.

The Trotter School. Dept. 7, Kansas City, Mo.

DIAMONDS·ON·CREDIT



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Why wait for your Diamond until you have saved the price? Pay for it by the Lyon Method. Lyon's Diamonds are guaranteed perfect blue-white. A written guarantee accompanies each Diamond. All goods sent prepaid for inspection. **10% discount for cash.** Send now for catalogue No. 97.

J. M. LYON & CO., *Established 1843* 71-73 Nassau St., New York

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GET AN APPOINTMENT--$50 TO $100 A WEEK

SENSATIONAL OPPORTUNITY FOR MAKING MONEY—MEN AND WOMEN

Every home needs—wants—must have it. Women buy eagerly. Agents excited. Orders coming thick and fast. Brand new. Field untouched. Nothing ever like it before. **Never such a seller.** Never such a wonderful invention. Be quick—don't wait—experience unnecessary. Just listen! One woman made **$24 first half day.** W. H. Morgan, Pa.: **"Sold 45 Cleaners in 25 hours.** Have sold 2 out of 3 persons canvassed." Marvelous results reported from every state. Read on about this great modern household invention. Millions have wanted—needed—for years. Only enjoyed by rich. But here at last for rich and poor. **New Home Vacuum Cleaner**—Blessing to all. **Rushing, whirling, sucking air draws dirt, dust, germs from carpets, rugs, mattings,** while they remain on floor. Strange—bewildering—phenomenal. No electricity—no motors—no power. Operated in any home by child or frail woman. Weighs 8 lbs. Different from anything ever seen. Purifies atmosphere—wards off disease—stops doctor bills. Sucks dirt from **carpets, rugs, mattings—from crevices, beneath radiators, furniture, behind doors, closets, etc.** Sold on demonstration. Women can't resist. Shown in three minutes. Sold in five. Then on to the next. Women praising, make sales easy. **Saves drudgery, cleaning, dusting.** Saves taking up carpets—saves time and money. No more brooms, brushes, dust cloths. No more backache. Never such a money maker—never such a blessing to women. Never such a chance to make money easy—quick. Big profit on every sale. But you must hurry. Agencies going. Everybody on the jump. C. E. Goff, Mo.: **"Sold 5 Vacuum Cleaners last Saturday**, — my first attempt." Gustave Anderson, Minn.: "Enclosed find order for 12 Vacuum Cleaners. Ship prompt. **One man sold a dozen 3 days."** F. I. Pierce, N. Y.: "Wife more than pleased with Home Vacuum Cleaner. It does all and more than you claim for it." Prof. Geo. S. McDowell, Pa.: **"Took 8½ ounces fine dirt from carpet 10 x 13 feet."** L. Banville, Ohio: "The New Home Cleaner greatest ever. Have arranged for demonstrations in stores." And so it goes—all eager, all say "It's great." So hurry. You can't fail. Get busy now. Grand invention—great seller. **(Hurrah! Join the money makers.)** Get this money. Don't be satisfied with small wages. Don't just exist. **How splendid to always have money in abundance. Break away!** Send today. Don't write a letter—just a card. Only write—that's all. Begin now to make money. Frank Williams, Nebr.: "Home Vacuum Cleaner a dandy; **works to perfection,**—without raising dust."

FREE SAMPLE TO AGENTS

READ HOW THE MONEY ROLLS IN

DON'T WORK FOR WAGES

Gain freedom from drudgery, long hours, bossism, job hunting. We want more Agents, Salesmen, Managers—Men and women, at home or traveling, all or spare time, to fill orders, appoint, supply, control sub-agents. You can't make a mistake. Listen! John Logan gave up $12 job driving team, now makes $60 weekly. Writes "Sold 15 cleaners today. Success is sure." That's the way they all read—So hurry and write. **SEND NO MONEY**—Just your name on a card. We'll send full instructions and offer good territory. We'll help; we'll start you making money. **Write.**

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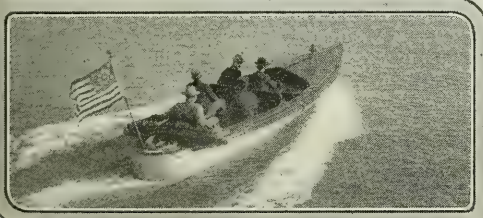
Mullins Boats Used by the Government

This cut shows our 26-foot, 40 horse-power Launch in Government service at the Naval Testing Grounds, Stump Neck, Md. The adoption of the Mullins Pressed Steel Boat by the U. S. Government shows what Uncle Sam—one of the world's largest boat buyers—thinks of the steel boat.

MULLINS STEEL BOATS CAN'T SINK



They are SAFE because they have air compartments like a life boat. They are **fast** because the steel hulls **can't waterlog.** They are **dependable** because they have a new type of two-cycle engine that **can't back-fire,** no matter how slow you run it. Seven Models—16, 18, 20, 22, 24 and 26 feet.

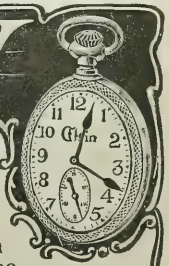
WRITE FOR OUR FREE CATALOG

which describes these models and their exclusive improvements, such as One-Man Control, Silent Underwater Exhaust, Inside Stuffing Box, Rear Starting Device, Improved Reversing Gear, Outside Gasoline Intake, etc. We manufacture a complete line of Steel Row Boats, Hunting and Fishing Boats, Marine Engines.

324 Franklin St. **THE W. H. MULLINS CO.** SALEM, O., U.S.A

The Largest Boat Builders in the World.

PAY NOW AND THEN



We will send for your approval a genuine **¼ karat, commercial white, perfect diamond,** in any style 14 karat solid gold mounting, **express prepaid, for $30—$5 down and $3 per month;** or a **⅜ karat diamond** of like quality for **$60; $10 down and $5 per month.** ¶ If you are interested in a reliable watch, we offer a **gentleman's** O. F. 12, 16 or 18 size, or **lady's** 6 size, plain or engraved, **20-year guaranteed gold filled case,** fitted with genuine **Elgin** or **Waltham movement at $12.50; $3 down, $1.50 per month.**

Write to-day for free catalog No. A87. Remit first payment with order or have goods sent by prepaid express C. O. D. for your inspection.

Herbert L. Joseph & Co.
217 State St. Chicago.

Same movement as above, with hunting case, **$16.75.**

Indigestion makes you miserable.

You have sourness, gas, heartburn, dyspepsia or other stomach distress.

Now take a little Diapepsin.

It *really does* make out-of-order stomachs feel fine in five minutes. Large case at druggists 50c.

Upset? Pape's Diapepsin will put you on your feet

$1.95 for this genuine 17-in. Ostrich Plume

This magnificent French Curl Ostrich Plume is full 17-inch in length.

Made of the highest grade hard flue ostrich, selected from the male bird. Has a very glossy fiber and is extra wide, with heavy drooping head.

Let us send you this Plume on approval.

Send us 15c. to pay express charges, and we will send you this beautiful Plume in black, white or colors, to your express office C.O.D. with privilege of examination. If satisfactory, pay the express agent $1.95 and the Plume is yours. If, however, you do not think this the most marvelous value you ever saw, tell the express agent to return the Plume to us and **we will refund your 15c. Or, if you prefer** to send the full amount, $1.95, we will send the Plume immediately, **express prepaid**, and if not satisfactory, we will promptly refund your money. **We take all the risk.** For complete line of Ostrich Feathers, including bargains in Willow Plumes, write for free catalogue.

SPECIAL Full 18-inch Ostrich Plume Black and Colors **$2.28**

Beautiful 19 in. French Curl Plume, This will compare with plumes sold by your local dealer and elsewhere for **$10.00.** **$5**

South African Importing Co. 1841 WABASH AVE Dept. 120 CHICAGO.

THE OSTRICH PLUME HOUSE OF AMERICA

No. 114 1Kt. Gem Solid Gold Tiffany, $10.00

No. 163 1Kt. Gem Solid Gold Belcher, $15.00

No. 103 1Kt. Gem Solid Gold Stud, $10.00

See Them Before Paying

These gems are Chemical White Sapphires and **can't** be **told** from diamonds except by an expert. So **hard** they **can't** be filed, so will wear **forever** and retain brilliancy. We want you to see these gems—we will pay all expenses for you to see them.

Our Proposition—We will send you either rings or stud illustrated—by express C. O. D. all charges **prepaid**—with privilege of examination. If you like it, pay the express man—if you don't, return it to him and it won't cost you a cent. Fair proposition, isn't it? All mounted in solid gold, diamond mountings. **Send for Booklet.**

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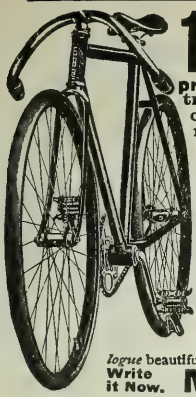

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LOW FACTORY PRICES We sell the highest grade bicycles direct from factory to rider at **lower prices** than any other house. We save you $10 to $25 middlemen's profit on every bicycle. Highest grade models with Puncture-Proof tires, Imported Roller chains, pedals, etc., at prices no higher than cheap mail order bicycles; also reliable medium grade models at **unheard of low prices.**

RIDER AGENTS WANTED in each town and district to ride and exhibit a sample 1910 **"Ranger"** Bicycle furnished by us. **You will be astonished** at the *wonderfully low Prices* and the liberal propositions and special offer we will give on the first 1910 sample going to your town. **Write at once** for our *special offer.* **DO NOT BUY a bicycle** or a pair of **tires** from *anyone at any price* until you receive our catalogue and learn our low prices and liberal terms. **BICYCLE DEALERS,** you can sell our bicycles under your own name plate at double our prices. Orders filled the day received. **SECOND HAND BICYCLES**—a limited number taken in trade by our Chicago retail stores will be closed out at once, at **$3 to $8 each.** Descriptive bargain list mailed free.

TIRES, COASTER BRAKE rear wheels, inner tubes, lamps, cyclometers, parts, repairs and everything in the bicycle line at **half usual prices. DO NOT WAIT,** but write today for our *Large Catalogue* beautifully illustrated and containing a great fund of interesting matter and useful information. It only costs a postal to get everything.

Write it Now. **MEAD CYCLE CO. Dept. M 31, CHICAGO, ILL.**

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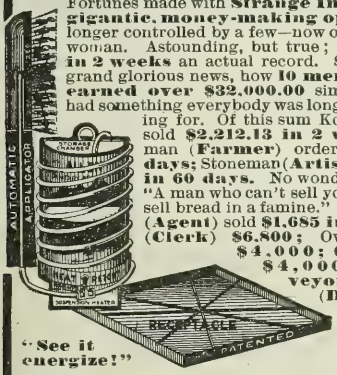
10 PENNIES LEAD 10 MEN TO GET $32,034.81



Fortunes made with **Strange Invention. New, gigantic, money-making opportunity.** No longer controlled by a few—now open to any man or woman. Astounding, but true; **over $2,000.00 in 2 weeks** an actual record. See, read, hear the grand glorious news, how **10 men like yourself earned over $32,000.00** simply because they had something everybody was longing, hoping, wishing for. Of this sum Korstad (**Farmer**) sold **$2,212.13 in 2 weeks;** Zimmerman (**Farmer**) orders **$3,856 in 39 days;** Stoneman (**Artist**) sold **$2,481.68 in 60 days.** No wonder Cashman says: "A man who can't sell your goods couldn't sell bread in a famine." But listen! Rasp (**Agent**) sold **$1,685 in 73 days;** Juell (**Clerk**) **$6,800;** Oviatt (**Minister**) **$4,000;** Cook (**Solicitor**) **$4,000;** Rogers (**Surveyor**) **$2,800;** Hoard (**Doctor**) **$2,200;** Hart **$5,000** and **"took 16 orders in three hours."** Rogers writes: "Selling baths has **got me one piece of property.** Expect to get another." Hundreds already getting rich. You should too; why not? **Experience don't matter.** How easy—just show; money yours—**75 per cent. profit.** Allen's Bath Apparatus gives every home **a bathroom for $6.50;** all others $150; yet do less. Think of it! So energizes water, 1 gallon ample; cleanses almost automatically; no plumbing. Could anything be more popular? It's irresistible. Reese (**Carpenter**) **saw 60 people—sold 55; result $320. "Sell 8 out of 10 houses,"** writes Maroney (Clerk).

"See it energize!"

LET US START YOU as exclusive agent, salesman, manager; cash or credit plan; all or spare time. **CAUTION:** This ad. may not appear again. Territory going fast. Reader, wake up; don't plod; get rich. **Risk 1 cent now—a postal—for free book, proofs and remarkable offer.**

THE ALLEN MFG. CO., 1782 Allen Bldg., Toledo, Ohio.

"Lucky I answered ad. Money coming fast." Agt. A. L., Me.

An expert is often unable to distinguish a Mexican Diamond from the finest South African genuine diamond. Both have blue-white fire, dazzling brilliancy, rainbow flashes of color, and perfect cut. Mexican Diamonds guaranteed permanently brilliant. To prove our claims we will send for **free** examination, by express, C.O.D., the rings shown above at Special Introductory Prices. No. 2500 Ladies' Tiffany Ring, ½ carat Mexican Diamond, $4.98—No. 2501, same, but 1 carat, $7.76—No. 2550 Gent's Round Belcher Ring, ½ carat, $6.94—No. 2551, same, but 1 carat, $11.36. All rings are **solid gold.** State size and we will forward ring immediately with guarantee. 10 per cent. discount, if cash accompanies order. If not satisfactory, return in 3 days for refund. Write today for **Free Illustrated Catalogue.**

MEXICAN DIAMOND IMP. CO., Dept. KR4, LAS CRUCES, NEW MEX.

Exclusive Controllers of the Mexican Diamond.

I Can Increase Your Earnings

No matter where you live or what your occupation or income may be, I can make you prosperous. If you want to earn more money—if you want to establish yourself in an independent business requiring no capital—send me your name and address on coupon below, (or a postal will do) and I will mail you, free, our **Big 62-Page Book,** fully explaining just how you can fit yourself to earn big money in the

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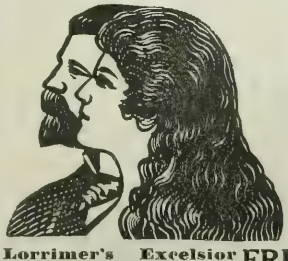
Hair Like This is the Crowning Glory of Man or Woman



Is it yours? Are hair troubles overtaking you? If you are bald or near bald; when your hair is falling, faded or dying; when dandruff begins to get in its destructive work, get **Lorrimer's Excelsior Hair Tonic,** the remarkable treatment the newspapers everywhere are telling about; the remedy that does more than is claimed for it; the remedy that doctors are praising. Get it or order it of a reliable druggist—one who will not offer you a substitute. If you have never used **Lorrimer's Excelsior Treatment** let me send you **FREE** by prepaid mail a trial supply of this remarkable hair food. Write today to **WM. CHAS. KEENE, Pres't. Lorrimer Institute,** Dept. 2799, **Baltimore, Maryland.**

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Voluntarily Reported Every Month

If one thing more than another proves the ability of the International Correspondence Schools of Scranton to raise the salaries of poorly-paid but ambitious men and women—to raise YOUR salary—it is the monthly average of 300 letters VOLUNTARILY written by students telling of salaries raised and positions bettered through I. C. S. help.

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Add to the three hundred students heard from every month, the other successful students not heard from, and you have some idea of the tremendous salary-raising power of the I. C. S. During January the number of students who reported success was 426. Mark the coupon.

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Please explain, without further obligation on my part, how I can qualify for the position before which I have marked X.

General Foreman	Banking
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Air-Brake Inspector	Foreman Machinist
Air-Brake Repairman	Chemist
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for stories suitable for THE RAILROAD MAN'S MAGAZINE—stories of danger and daring; of mystery, romance and wonder in the big world of

Railroading.

¶ Just sit down and tell the story as it happened—as though you were telling it to a smoking compartment full of good fellows and had them "all ears" to catch every word.

¶ Somewhere, sometime, there has been something in your life worth telling about. Even the humble engine-wiper can spin some yarn about the rail.

¶ We want just such stories—true ones, with names, dates and places, and running from 1,000 to 3,000 words in length.

¶ Checks will be mailed immediately upon acceptance.

The Frank A. Munsey Company

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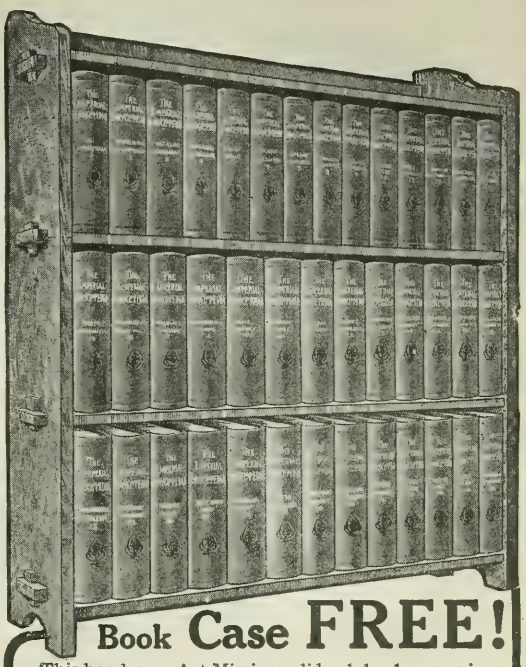

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PEGGY
Highest Scoring Bird in the World.

Money in Poultry
$3,600.00

Net Profit From 30 Hens in One Season on a Lot 24 x 40. It is Not an Experiment, it Has Been Done on the KELLERSTRASS FARM

MY NEW POULTRY BOOK

Covers all branches necessary for Success with Poultry. It tells you what I have done. It was written from actual experience.

IT TELLS YOU

How I made $3,600.00 in one season from thirty hens on a lot 24 x 40 by feeding them the scraps from my table three times a day. The test was made to show what can be done on a city lot as well as on a farm. I also furnish you the names of the parties who paid me over $2,000.00 for the eggs alone from these thirty hens, for reference, which is evidence undisputable. Remember this book is written by a man who has had the actual experience.

How I make my chickens weigh two and one-half pounds when they are eight weeks old.

How I prepared my chickens for the show room so that I won over 90 per cent of all the blue ribbons that were offered during 1907 and 1908, the last season that I showed. A "secret" that has never been published before.

How I built my indoor and outdoor brooders for 85 cts. each, to be used either as fireless or with heat in them and plans for the same.

How I raised ninety-eight chickens out of a hundred that I hatch.

How I took a flock of chickens and made them lay $68 worth of eggs per hen in ten months!

How I keep my male birds from fighting without injuring them.

How I raised the five chickens I sold to Madame Paderewski for $7,500.00.

How I feed my chickens for egg production.

How I keep my chickens healthy and free from sickness.

How I select a good laying hen from the poor layer.

How I break up my broody hens without injuring them.

How I pack my eggs so they will stay fresh.

How I mate up my chickens for breeding and fertility.

How I run my incubators and supply moisture.

How I raised my famous $10,000.00 hen "Peggy."

How I build my hen houses and plans for the same.

How I bred my big egg-laying strain.

It also tells about broiler plants, egg plants, and remember there is also an article in this book called "Two Years on the Kellerstrass Poultry Farm," which explains hundreds of things—just what we do in two years on the farm, or in other words, a two years' course on the "World's Greatest Poultry Plant." This is the greatest article ever written by a real practical poultryman.

Try My Way and You Can Raise Them by the Thousands.

Remember, this book was written by a man who has sold the highest priced chickens in the world, who also sold $68.00 worth of eggs per hen from a flock of hens in one season, in fact, if you breed a chicken of any kind, you know my reputation as a breeder. This is the first time I have ever offered to sell any of my "methods or secrets" to the breeder or to the public.

Please Read All These Letters:

263 Eggs in 272 Days

ERNEST KELLERSTRASS, Kansas City, Mo.

Dear Sir: I herewith inclose you affidavit, also trap nest record of the Kellerstrass Strain Crystal White Orpington Hen register No. 503, that laid two hundred and sixty-three (263) eggs in 272 days.

(Signed) P. J. HARLLEE, Chattahoochee, Ga.

Saves Thirty Million Chicks' Lives Annually

The simplest sort of thing—common black dirt—has solved the problem of eradicating a chicken disease which cost thirty million chicks' lives annually, a disease which scientists of the National and State Experiment Stations have been studying without success for ten years. Ernest Kellerstrass, the Kansas City poultry fancier, found the secret.—*St. Louis Republic.*

Good, Sound Logic

Winchester, Kans.

Dear Sir: Received your book all O. K. this A. M. and find same very interesting and full of *good, sound logic.*

Yours truly, CHAS. FORSYTHE.

231 Eggs Per Bird

My Dear Mr. Kellerstrass: I have sixteen of your hens that averaged two hundred and thirty-one (231) eggs per bird in 12 months.

LAWRENCE JACKSON, Pittsburg, Pa.

Worth $1,000.00

KELLERSTRASS FARM, Kansas City, Mo. Burnett, Cal.

Dear Sir: I received your book sent me Saturday A. M. It would have been worth to me $500.00 if I had had it last Spring. "Good Book." Common Sense, brained by hard-earned experience. Worth $1,000.00 to me. Respt. (Signed) L. R. HAYWARD.

Best Dollar's Worth

MR. E. KELLERSTRASS, Kansas City, Mo. Oct. 16th, 1909.

Dear Sir: Received your book all right. Am well pleased with book: best dollar's worth I have ever received.

Yours truly, (Signed) CHAS. P. GOETZ, Buffalo, N. Y.

Best Book on Poultry

Adah, Pa., Oct. 20th, 1909.

MR. ERNEST KELLERSTRASS, Kansas City, Mo.

Dear Friend: The book at hand. It is the best book that I ever opened on poultry talk. I think every person that has a bird on his lot or farm should have one of these books. I was surprised when I read where you opened those chicks and found lath nails and tacks in their craws. I never heard of such a thing; it stands to reason that would kill them. Yours truly, (Signed) H. M. GROVER.

$68.00 Worth of Eggs Per Hen

ERNEST KELLERSTRASS, Kansas City, Mo.

Dear Sir: Congratulations on the splendid showing you have made by selling $68.00 worth of eggs per hen from thirty hens in one season. G. M. CURTIS, Editor, Reliable Poultry Journal, Quincy, Ill.

Worth Many Times the Price

195 Orange Ave., Irvington, N. J., Nov. 8th, 1909.

ERNEST KELLERSTRASS.

Dear Sir: Received your poultry book. It is worth many times the price and should be in the hands of every one handling chickens, as it contains information that would take many years to learn.

I remain yours very truly, (Signed) JOHN SENFELDER.

Common Sense Methods

Springfield, Ill., Jan. 29th, 1910.

MR. ERNEST KELLERSTRASS, Kansas City, Mo.

Dear Sir: I received your poultry book the 27th inst. It is full of good common sense methods, that one can acquire in no other way than by actual experience in breeding and caring for fowls. I am very well pleased with it.

Yours truly, W. H. HARBISON, 338 So. Douglas Ave.

More Than My Money's Worth

Cincinnati, Ohio, Dec. 31st, 1909.

MR. ERNEST KELLERSTRASS, Kansas City, Mo.

Dear Sir: I consider your book chuck full of valuable information for any one, especially a beginner. I have already received more than my money's worth and have only read about one-third of the book.

Yours respectfully, (Signed) GEO. W. BENCKENSTEIN.

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GRAND PRIZE CONTEST

For Men and Women who love to draw

DRAW THIS PICTURE AND WIN A PRIZE

You Can Draw This Picture Any Size You Wish

Can you copy this drawing? Then win a valuable prize! Do you want the only magazine published entirely devoted to Illustrating, Designing and Cartooning? Each edition costs ten thousand dollars to produce. Make a freehand drawing of this picture with pen or pencil and mail it to us **stating your age and what you are working at.**

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Hundreds have talent for drawing but do not know it. This contest will please thousands and stimulate an interest in illustrating. Merely an hour copying this sketch may win this splendid Art magazine. It's worth trying for. Send in your sketch, and you must state your age. **It costs you nothing.** If you do not hear from our Art Directors within 10 days it means your sketch is not 40 per cent. as good as the original.

The Publishers of The Home Educator wish to get in touch with those who have a talent for drawing.

Eugene Zimmerman, known as "Zim," is the famous cartoonist of "Judge," one of the best known Cartoonists in the world. He sent us this sketch with the following letter:

"Here is a rapid-fire sketch which was inspired by a recent visit to the Metropolitan Art Gallery, New York, where I saw at least three canvases with the same inscription, 'Rembrandt: by himself.' Of course, there being no other figure in the picture I took it for granted that he was by himself as the pictures plainly show. At any rate it inspired me to do for you as Caruso did for you, and I hand you 'myself by myself.' Use it as you see fit.

"I am yours fraternally,
"ZIM."

Correspondence Institute of America Dept. 430 Scranton, Pa.

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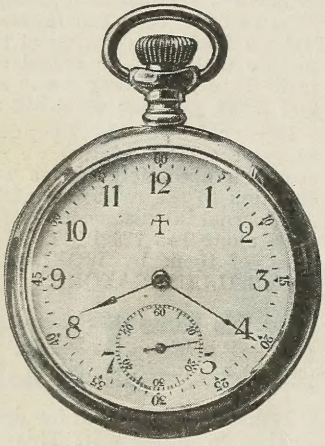
The elite Watch for critical users; an accurate timer jewelled with seven jewels and beautifully cased.

The INGERSOLL-TRENTON solves the watch-problem for the man who wants to be told the exact time by a handsome and honestly-built watch which he can buy at a moderate price.



Every Ingersoll-Trenton *watch* is enclosed in an original Ingersoll-Trenton *case* and *time-tested* at the factory before shipment; watch, case and time-keeping—*all three*—are guaranteed by the *same maker*. This fact is of the utmost importance to the buyer and is the *only instance* of the kind in the history of watchmaking.

The Ingersoll-Trenton rivals in accuracy *any other high-grade watch*. It is sold by 6,000 responsible jewelers at a factory-fixed price which pleases the purchaser and puzzles other watch-makers who make their product in smaller quantities, employ expensive and (sometimes) unscrupulous selling-methods, and are obliged thereby to make the watch-buyer pay unnecessary and fictitious prices.

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$5 in solid nickel case

$7 in 10-year gold-filled case

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Each watch fitted at Friction-points with seven ruby, sapphire and garnet jewels. The popularity of the Ingersoll-Trenton is sweeping the country.

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The famous Ingersoll *Dollar* Watch (together with the other Ingersoll models at $1.50 and $2) has turned the watch-world upside-down and made millions of people carry watches who never carried them before. More than *seventeen millions* of these watches have been sold. *Twelve thousand* are now being sold every day in the week. 60,000 Dealers sell them.

Ingersoll watches tick everywhere—tick truly and tell time. Ask anywhere for an Ingersoll; the dealer will know exactly what you mean.

We have published a little book, bound in an embossed cover. It contains *five facts* worth *five dollars* to anyone who is ever going to buy another watch. The title of this book is *"How to Judge a Watch."* What is your address? We would like to send you a copy with our compliments.

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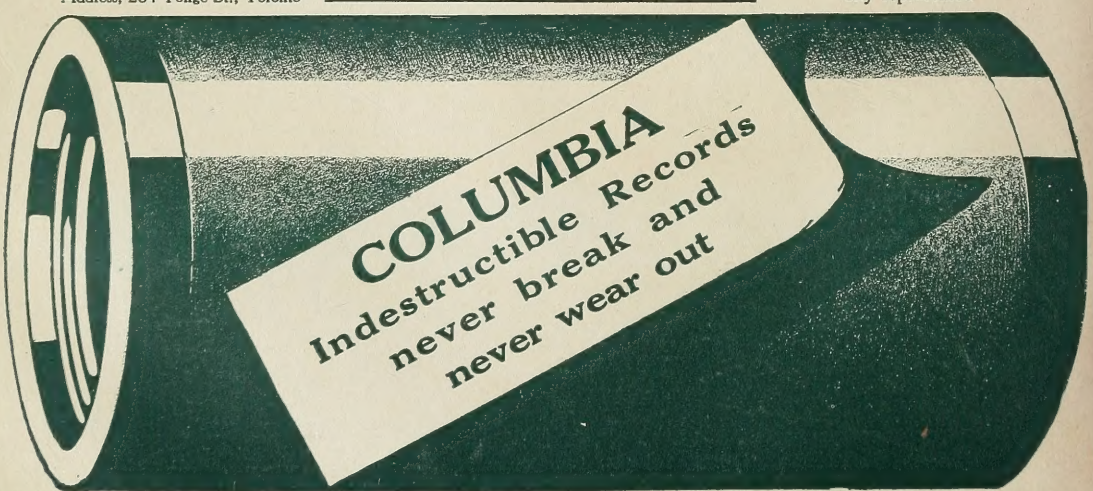

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